LIVES AND LIMBS:
RE-MEMBERING ROBERT JONES : A BIOGRAPHY

Joanna Whiteley

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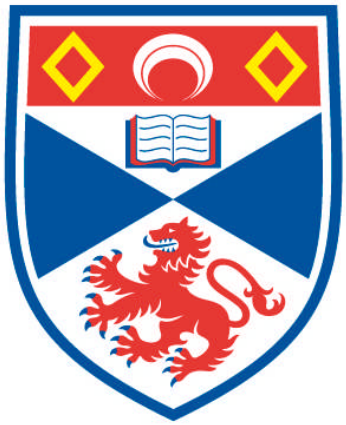

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Lives and Limbs:

Re-membering Robert Jones

A biography

by

Joanna Whiteley

Submitted for the degree Doctor of Philosophy in Arts, Divinity and Science

February 18, 2010

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Abstract

This is a biography of Robert Jones, 1857-1933. He was a surgeon, and is credited with bringing orthopaedics from its quack past into its scientific present. This work explores Jones' life and times, and examines whether he is entitled to the epithet 'father of orthopaedics'.

It looks at the history of bonesetting, the influences on Jones' development and medical training, and some key moments in his career – notably his involvement in the building of the Manchester Ship Canal, the planning of Heswall Children's Hospital, and the Great War. It argues that although there are other medical men who could have been credited with fathering orthopaedics, he is indeed the father – at least of orthopaedics in Britain, if not internationally.

This version of Jones' life begins with something of his biographer's journey, before it explores what and who influenced Jones, and in turn what his legacy has been to the medical profession.

The accompanying Critical Commentary explores whether or not it is possible to offer a definition of biography as a genre in the light of its history and purpose. It examines critical views, considers the mythology that grows up around historical figures, and also explains the rationale for the structure chosen for organising the material presented in this new biography of Robert Jones, *Live and Limbs: Re-membering Robert Jones.*

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DEDICATIONS

To Phillip, who opened his door

To Meaghan, whose support kept me afloat, who read every bloody draft: your enthusiasm and imagination kept my head full and my feet steady and my pen working

To the miracle, Shane Bonetti, who made me find the question, who so eloquently demonstrated scholarship, whose honesty was sometimes brutal, often crucial, and always valuable, whose appreciation was like Pacific sunlight, and whose mum knows CPR: you know the last words of this paragraph

And last, and first, and everything and always, this is for my children, Katherine, Thomas and Sam. I hope you think this is worth the price we've all paid

Contents

Abbreviations

BOA	British Orthopaedic Association
BJS	*British Journal of Surgery*
BMJ	*British Medical Journal*
DNB	*Dictionary of National Biography*
JBJS	*The Journal of Bone and Joint Surgery*
LMI	Liverpool Medical Institution
RJAH	Robert Jones Agnes Hunt Memorial Hospital
W	Watson, Frederick – author of *The Life of Sir Robert Jones* (1934)

PREFACE

Sometime after the second operation, I woke up in ICU. The room was suffused with mechanical sounds: hissing and clicking. The nurses slid about in the ward's half-light. I felt like I was underground. I couldn't speak because of the breathing tube. I signalled to the nurse. She brought pen and paper and I wrote a question. The effort to make letters was colossal, the writing huge and unformed, like a child's. I tried to smile, but the plasters holding the tube in place prevented me. The sentence I wrote was: "Where am I?"

There are two answers to that question. The first is that physically, I was in intensive care following an ORIF (Open Reduction Internal Fixation) to secure my shattered pelvis. The second answer is that intellectually and creatively I was three years into researching and writing the life of Robert Jones, the father of orthopaedics. Now, suddenly, I was an orthopaedic patient.

My biographer's journey began several years earlier, when I was sorting through the contents of a mildewed box in my grandmother's garage, trying to avoid splinters and spiders. It was full of old damp books, the hard covers falling away as they were lifted out. Nothing seemed worth keeping.

Then I pulled out a broken picture frame. I turned it over to check the glass was intact. It was, but the frame didn't hold a picture. It held a telegram, dated January 1933. It read:

THE KING AND QUEEN HAVE LEARNED WITH DEEP REGRET
OF THE DEATH OF YOUR DISTINGUISHED FATHER WHOSE
GREAT WORK FOR CRIPPLED SOLDIERS WILL
EVER BE REMEMBERED AND I AM DESIRED TO
CONVEY TO YOU THEIR MAJESTIES' SINCERE SYMPATHY
+PRIVATE SECRETARY+

I showed the telegram to my mother. She said it was about Uncle Bob.

While I was growing up, my grandmother had talked about Uncle Bob warmly, and often. I hadn't always listened very carefully, but standing there holding the framed sixty year old telegram, I tried to recall what she'd told me.

The man she called Uncle Bob was my great-grandfather, Robert Jones, a surgeon. She called him 'Uncle' because she was his niece as well as his daughter-in-law (see Family Tree p.14).

One of the 'Uncle Bob stories' my grandmother fondly told and retold was about her wedding. In the hot hot summer of 1919, the whole world was basking in peace after the Great War. There was a huge party in the garden, but shut away upstairs and not able to sit in case she creased her silk wedding dress, my grandmother paced round and round. She couldn't even look out of the window in case she was seen.

Then there was a knock on the door and in strode her uncle (her father-in-law to be) with a drink and a plate of food. He sat on the bed and told her funny stories about the guests: her mother smelling of cherry pie and camphor, her cousin Barbara complaining of another toothache. This was Uncle Bob. This was one of many kindnesses she remembered.

So my great-grandfather was a kind man, and a surgeon whose work with 'crippled soldiers' came to the notice of the King and Queen. Who or what else was he?

I found there was a biography, published in 1934, just a year after his death.[1] It introduced me to a man of contradictions, a man who straddled centuries and classes and cultures. I met a young surgeon in training who boxed bare-knuckled. I

[1] Watson, Frederick. *The Life of Sir Robert Jones*. London: Hodder and Stoughton, 1934. The author's copy has a handwritten note on the flyleaf: 'To Arthur and Eileen [author's grandparents] in fond memory of the subject of this biography and with the author's love. March 1934.'

met a doctor who treated one of Florence Nightingale's nurses and the Wild West showman, Buffalo Bill. I met a man who was close friends with writers, who didn't approve of women wearing corsets (except for medical reasons), a man who championed criminals and took tea with royalty.

I started to investigate my family history. One summer I drove to Oswestry, to the Robert Jones Agnes Hunt Memorial Hospital, where I sat in the sun-striped library and read accounts written by patients Jones had treated as children. I bought Agnes Hunt's autobiography, *This Is My Life*, and sat in a B&B reading that she was treated by Robert Jones herself, and then used to travel to Liverpool by train and ferry with some of the sick children in her care so he could treat them too. I drove to Liverpool, and spent an afternoon in the Medical Institution. Although it was being refurbished, and most of the archives were in storage, the librarian gave me correspondence to read by some of Robert Jones' colleagues planning his 70th birthday dinner, and while I was doing that, she placed an object beside me. It was a bronze cast of Robert Jones' right hand.

And that would have been it. A framed telegram. A frozen hand. A doctor's name on a branch of the family tree.

But then, my mother died suddenly and my life changed.

I'd always known that on her death I would inherit some money, and I decided to spend it on furthering my studies. She would have approved. I came up to Scotland to write.

Four years later, I was showing a friend round St Andrews. We started at the East Sands and the harbour, and then did the pier walk, at the end of which I lost my balance and fell. The tide was out. It is 27 feet down to the rocks. I landed in a sitting position shattering my pelvis. Emergency services were called…

…which is how I came to be lying in hospital, clenched by pain and dimmed by drugs. Talking later with my surgical team, it became obvious that if I'd had my accident when Jones was practising medicine I probably wouldn't have survived. Even today, a fractured pelvis is tricky to deal with. In Robert Jones' day it was beyond treatment.

The medical language I became familiar with during my stay in hospital made me see my body differently, from the inside out, like a diagram in a book of anatomy. Human beings have always had a fascination for what lies beneath the skin either literally or metaphorically – both anatomists and writers want to delve under the surface in search of blood, bones and viscera or darkness, passion and love.

In a time before imaging technologies, pathological specimens were vital to the teaching of medicine. Now they are museum curiosities. On a visit to the School of Medicine in St Andrews, I walk between silent glass tombs encasing the relics of past accidents, and see what happens when someone fractures a bone and it isn't set properly. Each deformity tells a story, part of the history or catastrophe of a person who had an accident like I did. They beg the question, who owns these bones? And I ask, as I wander quietly from case to case, a biographer looking for her subject, who owns the bones of the bone man?

I was in hospital for 98 days. I've learned to walk. I've weaned myself off the drugs. I've carried on researching and writing with a new insight into what Robert Jones did and how important he was.

That is my story.

What comes next is his.

Robert Jones

Bones

The word ‘orthopaedia’ was coined by the French surgeon Nicholas Andry in his book, *Orthopaedia, or the Art of Preventing and Correcting Deformities in Children (1741),* from the Greek words ‘orthos’ for ‘straight’ and ‘pedia’ for ‘children’.

‘The orthopaedic mind is trained to think in terms of function.’
(Robert Jones. Editor’s Preface. *Orthopaedic Surgery of Injuries.* London: Hodder and Stoughton, 1921)

‘…Robert Jones’ definition of orthopaedics is still our guiding star: “The treatment by manipulation, operation, re-education and rehabilitation of the injuries and diseases of the locomotor system”’
(Harry Platt. First Founders Lecture, British Orthopaedic Association. Published in *JBJS,* vol. 41B, No. 2, May 1959)

In 2002, David Beckham broke a bone in his foot, threatening England's World Cup chances. *The Sun* newspaper printed a picture of his foot on its front page, and invited readers to take part in a collective laying on of hands in national prayer. In 2006, it was Wayne Rooney's turn to stop the nation's heart when he went down in May with a similar injury. Both these high profile players, along with many others, have fractured bones in their feet, specifically metatarsals. These are the long bones in the foot that connect with the toes. Fractured metatarsals have been made famous by footballers' injuries.[2] Beckham fractured his second metatarsal, Rooney his fourth, but the commonest metatarsal injury, and also potentially the most difficult to deal with, is a fracture of the fifth, the bone connecting with the little toe.

The first person who correctly diagnosed this fracture was Doctor Robert Jones, 'a plump, short and vivacious man',[3] who had injured himself in 1896 while 'cavorting around a tent pole, with the chaplain perched on top' (Cope 117). Doctor Jones at first diagnosed himself with a ruptured tendon. However, the intensity of pain led him to have his foot x-rayed with the new machine he had just purchased. On discovering the fracture he noted several other cases he had diagnosed similarly, including a woman who had slipped off a step and a man running for a train. He found that 'a finger on the spot gave exquisite pain' (697), and they were in fact fractures of the fifth metatarsal.[4] This injury is still known as the Jones fracture.

As well as the fracture immortalising his name, there is a Robert Jones splint, comprised of layer after layer of bandage with cotton wool between. It is thought by

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[2] According to www.physioroom.com/injuries fractured metatarsals account for over 30% of traumatic foot injuries. The 5th metatarsal has a limited blood supply, and the tendons in this area pull the fractured bone pieces apart. It is notoriously difficult to heal.

[3] Max Page. *JBJS* Centenary Edition (not paginated).

[4] Jones first officially described this injury in an article titled 'Fractures of the Base of the 5th Metatarsal Bone by Indirect Violence', published in *Annals of Surgery*, 1902. His article refutes the generally held belief that metatarsal fractures were only caused by direct violence (e.g. a crush injury).

some orthopaedic surgeons to minimise swelling and bleeding following knee operations, because, if properly applied, it provides firm even pressure. 'Robert Jones believed that oedema increased tension within a wound, thereby delaying wound healing…A traumatised limb should have soft-tissue stabilisation as well as bony stabilisation' (777-8).[5]

Although the bandage is out of favour with some of today's orthopods (it is still extensively used by vets), it shows Robert Jones was an innovator and inventor in his field. This aspect of his work was illustrated further when Jones was conferred with an honorary degree in June 1925 (just before his sixty eighth birthday). The Dean's address included this story:

> Long years ago a young Liverpool practitioner, with no distinction in the schools and no special hospital experience, was faced with the problem of how to restore to a sturdy contractor's foreman the means of doing his day's work. The man had fractured his thigh and, through faulty union, was faced with loss of his place, for the one leg was many inches shorter than the other. The young practitioner [Jones] solved the problem, not by attempting to restore the crippled limb to its original length: he saw that this could not be done. He boldly cut many inches out of the bone of the sound limb and so restored the balance. His patient, instead of becoming a pauper, became a railway contractor on a great scale, and a millionaire. The genius who found this solution went on from strength to strength until, to-day, he stands before us the greatest bone surgeon of this or any generation, renowned and honoured the world over.

The anecdote illustrates several of Jones' other features as an orthopaedic surgeon. First it deals with an incident from his very early days practising in Liverpool and demonstrates his pioneering work in orthopaedics. Second, it does not shy away from the fact that he showed little, if any, academic prowess. Third, it demonstrates Jones as both a bold innovator, and a man concerned with restoring the function and quality of his patients' lives rather than merely treating an injured

[5] Brodell, Axon Evarts. 'The Robert Jones Bandage', in *JBJS,* Vol. 68 B, No. 5, November 1986.

limb, at a time when injuries could result in their victims being unable to work and thus becoming paupers (unlike Beckham and Rooney).

Perhaps he was born with the kind of personality that meant he was prepared to take risks, and make quick, intuitive decisions, but intuition in medicine can only be born out of experience. In Robert Jones' case, as was the standard path at this time, his experience began with apprenticeship.

Robert Jones arrived in Liverpool in 1873, at the age of fifteen. The city in which he first trained, then chose to work and live, was a rambunctious, massively expanding port. He thrived in it. But the Royal Colleges of Surgeons are in London and Edinburgh. They paid little heed to provincial schools of thought. In that light, it is remarkable that a surgeon specialising in the unfashionable though lucrative discipline of orthopaedics would make such a profound mark on medicine. How did that happen?

According to Lord Cohen of Birkenhead:

> A pessimistic critic wrote of Liverpool at the end of the eighteenth century: "Art and science are inimical to the spot; absorbed in the nautical vortex, the only pursuit of the inhabitants is commerce. Liverpool is the only town in England of any pre-eminence, that has not one single erection or endowment for the advancement of science, the cultivation of the arts, or promotion of useful knowledge. It may be truly said…that wisdom cries out in the streets and no man regards it" (320).

Not a very auspicious sounding place for the start of the father of orthopaedics' medical career, although history suggests this view to have been belied

by developments. For instance, the University of Liverpool has produced eight Nobel Prize winners.[6]

And Liverpool was 'placed…in the fore-front of eighteenth century surgery' (Cohen 311) by surgeons like Henry Park, who pioneered conservative surgery for diseased joints in place of the customary practice of amputation, and his close friend and Liverpool Infirmary colleague, Edward Alanson, who introduced "flap" amputation.[7] By the second quarter of the nineteenth century, before medical teaching became formalised, medical apprenticeship and pupillage were undertaken at the city's Infirmary.

Liverpool also had a history of 'resuscitation by artificial respiration after drowning', performed in particular by Thomas Houlston[8] in a receiving house on the north side of the old dock. And some of its medical men dared to advocate the emancipation of slaves at a time when the city was one of the points of the slave triangle and its traffic a major source of mercantile income.

So despite what that pessimistic critic may have said, Liverpool dared to be a city of several British medical firsts: the first public bath house in the country opened there in 1842, Britain's first Medical Officer of Health, Doctor William Duncan, was appointed in 1847, and the first public ambulance was attached to the city's Northern Hospital in 1886, aiming to address:

> …the barbarous manner in which the injured in Liverpool are removed from the scene of an accident…conveyances utterly unsuited to the purpose…are very frequently the cause of further injury of the worst kind…In an able address to the Liverpool Medical Institution, in the session 1881 and 1882, Mr. Reginald Harrison said: "It was of the first

[6] Other alumni include Lytton Strachey, Dame Stella Rimington, Steve Coppell and Carol Ann Duffy.
[7] Henry Park delivered Gladstone in 1809. He published his account of the process of cutting out knees and elbows and rejoining the bones so that amputation could be avoided in 1783.
[8] In 1773, Houlston attempted to establish Liverpool as a spa using water from a spring in St. James' quarry – now the site of the Anglican Cathedral where Robert Jones' remains lie.

> importance that the hospital should practically be brought to the very spot where the injured person lay"…(1195).[9]

It is appropriate to add to that list of firsts that Liverpool nurtured the medical development and practice of the man who would father orthopaedics, and said he regarded himself, 'as a citizen of Liverpool by extraction. And it would be a very severe extraction which would ever get me out again, a kind of spiritual wisdom tooth in fact' (W 136).

By the time Jones became an apprentice, medical training in the city was formalised in established schools of anatomy along Hunterian lines,[10] lecturers undertaking responsibility 'for cleaning, for keeping the windows in repair, and for paying the porters' wages (Cohen 314).

The exact reason for Jones' arrival in Liverpool is uncertain. There are some suggestions that his uncle, Hugh Owen Thomas, a doctor in the city, offered to help out his impecunious brother in law (Jones' father), a freelance journalist with six (possibly seven) children, who worked in London.[11] The word 'adopted' is used in quite a lot of biographical references, but it seems to signify the permanence of Jones' move from London to Liverpool, rather than a formal, legal process. There is no evidence surviving that shows when Jones fixed on a career in medicine, but

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[9] *BMJ*, Vol.1, No. 1172 (Jun. 16, 1883) accessed 10/01/10.

[10] The Hunterian Medical School was founded in 1769 by William Hunter in Soho, London. William and his younger brother John were Scottish anatomists. Anatomy classes only took place in winter months, as there was no means of preserving the bodies used for dissection.

[11] The youngest, Susannah (known as Ethel), was born in 1875, two years after Robert had become apprenticed to his uncle. There may have been another child, a son, Arthur, but his birth (and probable death since he does not appear on any census or family tree records), remains unrecorded to date. Robert Jones' own son was called Arthur. It may have been for a lost brother. It is not possible to be certain at this time.

apprenticeship to his uncle was a natural (and probably cheap) way to accomplish this. Jones' first biographer proposes 'He was bred into surgery from boyhood' (Watson 46), having spent many hours as a child, during holidays in Liverpool, watching splints being made, and accompanying his uncle on rounds.

Robert Jones III [12] was born above a confectioner's shop in Rhyl, a small town on the coast of north Wales, on Sunday June 28th 1857,[13] exactly nine months and two days after his parents' marriage. His father was also named Robert Jones. He was the son of a respected local builder who was also named Robert Jones, trebling the chance of confusion. It requires some effort and concentration to keep up with the Joneses.

The family tree below will help clarify any confusion between the three generations of Robert Joneses. The 1851 census records the occupation of Robert Jones II as a joiner's apprentice, but by the time his first child, Robert Jones III, was born he had temporarily gone into retail.

Part of the Jones Family Tree[14]

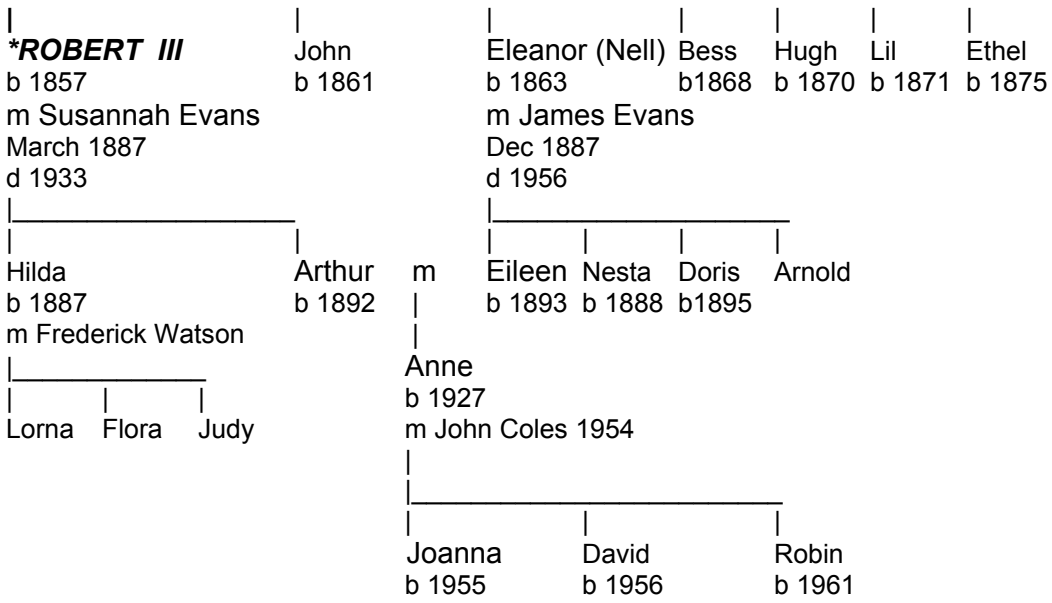
Robert Jones I b 1809 m Eleanor Humphries b 1808

Robert II	Mary	Elizabeth	Susannah
b 1836	b 1838	b 1839	b & d 1842
m Mary Hughes		m Hugh Owen Thomas	
d 1875		d 1913	

[12] There are three generations of men all called Robert Jones. For ease of distinction I have referred to them as I, II and III – the last being the subject of this biography.

[13] Also born in 1857 were Lord Baden-Powell, Joseph Conrad (later a close personal friend of Jones'), Edward Elgar, Emmeline Pankhurst, and Ronald Ross who worked at the School of Tropical Medicine in Liverpool and was awarded the Nobel Prize for his work on malaria.

[14] By the time Arthur Jones married Eileen Evans in 1919, cousin marriages were much less common than had been the case previously. Charles and Emma Darwin were first cousins, but ironically, *On the Origin of Species* (1859) was a major contribution towards the lessening of this practice, particularly among scientists and members of the clergy. Other consanguineous marriages include Queen Victoria, Albert Einstein, Edgar Allan Poe, and Jesse James. By the 1880s, 13 American states and territories had prohibited such unions.



*Robert III's mother, reputedly very beautiful, was called Mary Hughes. She was two years older than her husband, and the 1851 census, five years before her marriage, records her occupation as a house servant. Family history has it that the Jones family did not approve of the marriage because it was felt he had married beneath him. She was a farmer's daughter and a servant. But the same family legend has it that Mary was Robert II's superior in every way.

Such views are impossible to verify from this distance. The fact is that in terms of status the families were quite similar: the Joneses were local builders, the Hughes family, farmers. Two generations before Robert III, they worked for other people. By the time he was born, both sets of grandparents were employers rather than employees.

Robert Jones III was born on the nineteenth anniversary of Queen Victoria's coronation. A few days earlier she had attended a ceremony in London's Hyde Park to present the first Victoria Crosses, cast out of gunmetal from cannon captured at

Sebastopol, to those who had distinguished themselves in the recently ended Crimean War.[15]

Jones' paternal grandfather, Robert Jones I, was an architect and builder, and a respected elder in the Welsh Calvinistic Methodist Church in Rhyl. He married his wife, Eleanor Humphreys from the nearby small town of Rhuddlan, in 1824, and Robert Jones II was their eldest child and only son. There were also three daughters – Mary and Elizabeth, who both survived into adulthood, and Susannah who was born and died in 1842.

Robert Jones II was sent away to be educated at Fairfield College in Manchester. It was intended that he would join the family building business as an architect, but he rebelled against the idea and followed his heart instead. At the age of nineteen, he fell in love with the beautiful Mary Hughes, from the same small town as his mother.[16] He had no interest in either the building industry, or local status and prestige, and in 1862, to the bewilderment of his younger sisters and the disapproval of his father, he took himself and his young family to London. They settled first in Nelson Square, south of the River Thames and close to Fleet Street. Despite some financial difficulties during Robert Jones III's childhood, their father thrived in London, glad to have left the stifling parochialism of Rhyl. He worked as a freelance journalist, and also edited *The Heraldic Register of the House of Commons*.

Nelson Square was extensively bombed during the Second World War, but on one side a few tall town houses still stand, similar to the one that was home to the

[15] Coincidentally, a 21 year old Private in the South Wales Borderers, one of the eleven men awarded the Victoria Cross for his efforts at Rorke's Drift (January 1879 – the Anglo-Zulu War) removing patients from a hospital ward, was also called Robert Jones. Curiously, our Robert Jones has an actual link with that regiment. His granddaughter, Flora Watson, married George Egerton, who rose to become a Colonel in the regiment and was one of the military advisers for the film, *Zulu,* which tells the story of that engagement.

[16] It may be small (Rhuddlan's population was 4,296 at the 2001 census), but the town is historically significant as the place where the English Edward 1 signed a statute laying down the way the Principality of Wales was to be governed.

young Jones family. One is now home to the Guild of Psychotherapists, who kindly let me in to wander round.

The building is three storeys high. The original range is still in the basement kitchen. It is easy to imagine Bob and Jack, the Jones boys, running up and down the narrow stairs, or playing amongst the trees in the middle of the square. It is still a quiet, leafy place, atmospherically much as Frederick Watson describes it in his biography of Robert Jones. Watson says that although the area was not a wealthy one, the extreme poverty of some London areas was out of sight of the growing children, so hidden from immediate view, were the:

> Dirty pavements, sordid streets, malodorous back-alleyways; grey river-mist, thickening at times to a sooty fog-blanket; thunderous clangour of tram-cars, rattle of brewers' drays over cobblestones, jangle of barrel organs…gin palaces, garish with light and nightly the scene of shrill-voiced revelry and fist-fights' (Brust 36).

But they were there, and foreshadow the area in Liverpool where Jones would spend much of his adult working life.

The Guild of Pyschotherapists building in Nelson Square, London.

Charles Booth's 1888-9 poverty map of the area shows the residents of Nelson Square itself to be predominantly well-to-do middle class, but with a corner occupied by the very poor (an income of below 18s per week), and only two streets away to both the south and the north-west, residents were from the lowest class.[17] Although this map was drawn twenty years after the Jones family had moved away

[17] Philanthropist Charles Booth, 1840-1916, conducted a survey into life and labour in London between 1886 and 1903. His maps are colour coded to represent where classes (defined mainly by income) lived.

from Nelson Square, it is impossible to imagine that the young Robert Jones would have been entirely ignorant of social differences in the people among whom he lived.

The Jones family kept a few laying hens, and the first volume of Molly Hughes' autobiography, *A London Child of the 1870s,* gives some further clues as to what home life might have been like. There are certain similarities between her family and the Joneses, in terms of class, financial uncertainties, and the tangle of children. Toys were few and unsophisticated by today's standards. There were tin soldiers, wooden bricks, marbles, ninepins, and a great deal of imagination. They would have played cards and charades and there were quiet times when Robert Jones II read his children fairy tales by gaslight. Outside, street hawkers sold assorted goods such as flowers, birdcages and baskets, and inside there were books. Robert Jones III was an avid reader all his life and in his adulthood became friends with writers. But that was all to come. In his childhood, there would have been Dickens, Scott and Thackeray, Eliot and Lamb, Byron and Tennyson. Many beautiful editions, leather bound and well read, with a Robert Jones bookplate inside the cover, still survive in the family.

And in 1861, when Robert III was just four years old, Michael Faraday published a series of lectures he had given at the Royal Institution, called *The Chemical History of a Candle.* The book is addressed 'to juveniles as a juvenile myself' (14), and his enthusiasm for science streams off the page. It isn't hard to imagine the blond curly haired child, known as Bob by his parents, being introduced to science with this popular children's book of the time.

Domestic details in the Watson biography are largely sourced from Robert Jones II's diary (sadly no longer in existence), in which he tells of days out on the river to see 'everything worth seeing' (W 22). (A steamboat trip cost a penny). Jones

II believed in encouraging his children to be curious and to think for themselves and took his oldest child about with him to hear a range of people speaking. For example, they went to hear Henry Stanley at St James' Hall in 1872, the year after he had 'found' Dr Livingstone. In a letter to his sister, Mary, Robert Jones II describes Stanley as 'a clever fellow … impetuous … with plenty of energy … and wonderful vanity ' (ibid.). They went to see a performance of Henry Irving as Hamlet, and then another actor, Thomas Cresswell, in the same role so they could discuss the different interpretations.

The young Robert heard both Gladstone and Disraeli speak, and was also taken to hear religious speakers from different denominations: Archbishop Manning who, like Cardinal Newman, had converted from Anglicanism to Roman Catholicism and zealously embraced its extremes; the Baptist preacher, Spurgeon; the American revivalist hymn writers, Moody and Sankey; and the bushy-eyebrowed, Northumbrian, Nonconformist, temperance orator, Joseph Parker. Presumably exposure to this range of religious belief would also have stimulated discussion, and it is significant that Jones' memory of this aspect of his childhood juxtaposes stage performances with religious events. Never pious, Jones refused all his adult life to admit to following one particular denomination over another. Frederick Watson, who knew him well, asks, 'Was he sustained by religious faith?' (317), and immediately answers his own question with, 'Here is a matter…upon which Robert Jones was disinclined to speak' (ibid.). He concludes that since Jones' father and Aunt Thomas had 'taught him the supreme virtue of tolerance' (ibid.), he 'represented an entire freedom from conventional religion…[and] was ahead of his age in freedom from superstition, fear and hatred' (317-18). But for now, the young Robert listened to

what other men had to say on the subject, and when he was staying with the Thomases in Liverpool, attended Chapel with his aunt.[18]

Robert Jones II also indulged his son's developing sporting interests, taking him to the Derby and the Boat Race. The Boat Race was an important date in London's calendar. 'Long before the great day people showed their colours, nearly every horse wore a piece of ribbon, and little errand-boys came to open blows in the street as to the respective merits of the Universities' (Hughes 22).[19]

For a short period, Robert Jones III attended a school in Wales. He affectionately recalled it in a letter:

> I wonder how Menai Bridge looks now.[20] I have vivid recollections of it because, as a boy of about 12 or 13, was at boarding-school there under the care of a weird character with a huge head and little else excepting a great mathematical brain. His name was John Thomas. I spent a very happy time there and remember clearly the village in those days. More particularly do I remember a little confectioner's shop, on the right-hand side on crossing the Bridge from the Caernarvonshire side, where they sold the most succulent and delightful jam tarts. Such is memory! In all my wanderings I have never been able to taste such tarts as they sold there for, I think, 1/2d. each! I also recollect very well the grocer's shop which maintained a prominent position at the head of the village and where we used to take blackberries after picking them so that they might make us jam. In the grounds of Pen y bryn there were some rocks and, looking back now, they would seem to me between 15 and 18 feet. I used to take a great delight in jumping off these rocks on to the soft green below. I suppose the blackberry jam, the jam tarts and the high rocks have been exaggerated by time.[21]

[18] Although the word 'chapel' is often used to describe a small Christian place of worship, in rural Wales in particular the word is used to distinguish the Nonconformist.
[19] In the future, Jones III's son (thankfully called Arthur, not Robert) went to Cambridge to read law.
[20] The Menai Suspension Bridge was built by Thomas Telford and opened on 30th January 1826.
[21] Extract from a letter written by Robert Jones to a colleague, Dr Goronwy Thomas.

The Menai Suspension Bridge from the Anglesey side with Snowdonia in the distance. It does not look quite as Jones III would have remembered it, as it was strengthened and widened to accommodate more modern traffic from 1939-41.

Although Robert Jones did not spend very long at this school, it seems typical that his most enthusiastic memories concern food and sport, rather than academic activity. It may have been while he was at school here that he picked up the Welsh he occasionally spoke to his patients. Dr. Leo Mayer of New York recorded in an obituary that when he treated Welsh miners, 'he spoke in their native language', and once, when attending a dinner for medical luminaries, Jones stood and gave a resounding speech in Welsh, which he later revealed to have been an energetic rendering of the Welsh song and military march, *Men of Harlech.* This was not typical, however. The Jones family spoke English at home, so although Robert may have picked up conversational Welsh here and there, it was not his first language.

As the Jones family grew, they moved to 11 Wansey Street, Stoke Newington. They were there by December 1868, when Robert was eleven and a half, and their fourth child, Mary Elizabeth (Bess), was born. In about 1869, Robert

went to school at Sydenham College, 'not far from the Crystal Palace' (W 21).[22] There he excelled in cricket, a game he played and loved all his life, with team values he used in his medical work. Jones was popular with both his peers and his teachers. Watson quotes from a letter written by Robert Jones II to his sister, Elizabeth, by now married to Hugh Owen Thomas, which says that the school had given his son 'an excellent character, and said his only fault was carelessness' (26).

Several institutions bore or still bear the name Sydenham College. The one which Robert Jones III attended for three or four years has long since disappeared, but it could have been named for the eminent English surgeon, Thomas Sydenham (1624-1689), who practised medicine in the area, and it would be fitting that the boy attended a school which immortalised this influential surgeon's work. Sydenham was the medical hero of Jones' Uncle Hugh. The school records are lost, but it is possible to at least get a flavour of what the curriculum would have been like from looking at what was offered by other similar schools of the time.

The 1860s and 70s saw significant parliamentary discussion about education. In 1864, following a testy press campaign vilifying the state of English public schools like Eton, the government set up the Clarendon Commission to investigate the running of these schools, and their curricula. Nine schools, the 'great' public schools of the country, were the focus of the Commission's work.[23] These institutions prepared boys for university, and the curriculum was largely focused on the Classics, excellence in which was then the mark of erudition for a young scholar. Much of the school day was devoted to the study of Latin and Greek, with some

[22] These dates seem to conflict with Jones' own memory of his time at school in the shadow of the Menai Bridge. It has not been possible at this time to specify the dates he was at either school, although a photograph in the LMI suggests Jones attended the school in Wales earlier than he recalls in his letter: not just the jam and the rocks were 'exaggerated by time'.

[23] These were Eton, Winchester, Westminster, Charterhouse, St. Paul's, Merchant Taylor's, Harrow, Rugby, and Shrewsbury. All but St. Paul's and Merchant Taylor's were boarding schools.

Mathematics and a little History and Geography. There was also a great emphasis on Divinity, some Modern Language instruction, and composition.[24] The Commission 'considered that the curriculum lacked breadth and flexibility' (Curtis 77), and there was lengthy discussion about the desirability of introducing Science into the educational experience. Curtis goes on to say:

> The fact that due weight was not given to modern subjects, mathematics and science, was not altogether the fault of the schools. It was difficult to obtain good teachers of these subjects … The Commissioners recommended that the classical languages and literature should remain the chief studies of the schools, and emphasised that the main advantage in learning the Classics was to gain a greater command over the English language. In addition every boy ought to be taught arithmetic and mathematics, at least one modern language (French or German), one of the natural sciences, and either music or drawing. He should also leave school with a general knowledge of ancient history, have some acquaintance with modern history, and a command of pure grammatical English … The Commissioners spoke very highly of the work of the public schools in training character, in inculcating a love of healthy sport and exercise, and in fitting pupils both to control themselves and to govern others (78).

This was the world of the old public schools – institutions designed to produce the next ruling generation. But also at this time, new public schools like Wellington College in Berkshire (founded in 1867, when Robert Jones III was ten years old) were being established by forward-thinking men, who believed a more modern curriculum would suit the needs of modern young men. Some Headmasters made significant differences to older schools such as Uppingham in Rutland and Oundle in Northamptonshire, introducing sciences and music, even carpentry, into their curricula.[25] The traditional Classics were studied so intensively because both Greek and Latin were necessary for university entrance, and they remained requirements

[24] Digby, Anne and Searby, Peter, 1981. *Children, School and Society in Nineteenth-Century England*. London: Macmillan. This is the Classical Curriculum for the fifth form of Rugby School in 1861. *Tom Brown's Schooldays,* set in Rugby school, was published in 1857, the year Robert Jones was born. Like the eponymous hero, Jones was more of an athlete than an intellectual.

[25] By the time Jones' son, Arthur, went to school – Clifton College, Bristol – carpentry was taught there.

for trainee doctors until well into the twentieth century, which, because of so much of medicine's classical nomenclature, 'made a vast number of words with finely-graded meanings familiar and matter-of-course rather than strange and unnatural' (Newman 52). So Robert Jones III must have had some Latin and Greek, even if his academic credentials were not notable.

Sydenham College was a minor public school, and is likely to have offered a similar curriculum to that outlined above. It is known that emphasis was placed on sport, and when Jones left school, having won 'the prize bat with silver shield for cricket' (W 21), the headmaster impressed on him:

> …not to discontinue his general studies … showing him what a tendency and temptation there would be to confine himself only to those branches of study which he would require in order to enable him to pass his various exams. He pointed out to him that a medical man was expected to be a gentleman in the true sense of the word, for he would possibly be called upon to the highest as well as the lowest, and to be capable of holding converse with men of intelligence and education he must be so himself (W 26).

At the age of fifteen, Robert Jones III, accompanied by his father, left London and travelled to Liverpool to begin his apprenticeship. This then was the first major male influence on Robert Jones' young life: his father, an unconventional man, eccentric, restless, vital and life loving. Robert Jones II was an optimistic, liberal thinking, risk-taking, family man, devoted to his wife. He died of typhoid on November 13th 1875, aged just thirty-nine, and said on his deathbed that were he to be given a second chance, he would buy Mary a ring and start his life with her all over again. She was left a young widow with seven surviving children to raise, the youngest of whom, Ethel, was only eight months old.[26]

[26] Always struggling for money, Watson records Robert Jones II's income for 1874-5 as £595 18s. 0d. and expenditure £592 3s 2d. – although one suspects that would have made him as happy as Mr Micawber.

Little is known of her after this. Her oldest daughter, Eleanor (Nell), joined her brother in the Thomas household in Liverpool, and the rest of the family went to Wales – to the village of Rhuddlan, where she had grown up.[27]

The second key male influence on Robert Jones III's life was to be his Uncle Hugh, who had married one of Robert Jones II's younger sisters, Elizabeth, in 1864. Although he was as dynamic as his brother-in-law, Thomas was also evangelical, critical, autocratic and solitary.

To understand Thomas, and the profound influence he had on his nephew, and therefore on orthopaedics, we need to return to Wales, and go back in history to the mid eighteenth century.

The Bonesetting Thomas Family

Robert Jones' Uncle Hugh was a direct descendant of one of two boys washed up after a storm in Lligwy Bay on the treacherous north Anglesey coast. They seem to have been the only survivors of a shipwreck. [28] Accounts of exactly who found them vary, but there is some consensus that they were lashed to a raft. One of the more colourful versions suggests a local smuggler and wrecker (the wreck may have been the result of his 'work'), Dannie Lukie, found them huddled together in the bottom of a small boat and took the boys to a nearby house occupied

[27] Of Robert's remaining siblings: John (Jack) became a vet, married a music hall artiste (Marie Harborn) and moved to Thailand (then known as Siam); Mary Elizabeth (Bessie) died aged 23 in 1891; Hugh had a spinal deformity, and sailed to South America where rumour has it he was murdered; Eliza Lilian (Lil) became a nurse and died unmarried in 1962; Ethel married a vicar and moved to Yorkshire.

[28] Dates given for this event vary, but there is some agreement that it happened in 1745. The Thomas family tree suggests Evan and his brother were born around 1735, making them 10 at the time they were found.

by Doctor Lloyd and his wife, a childless couple. The boys were dark-complexioned and spoke a foreign language – possibly Spanish.[29] Only one of the boys survived, and he was given the name Evan Thomas. It is thought possible that the boys might have been twins, which would account for them being given the name 'Thomas', coming as it does from the Greek 'didumos' meaning a twin. Another version says that the boys were fostered and took the name Thomas from their new family.

Lligwy Bay, Anglesey, on a peaceful day.

Whatever the truth about their arrival on the island, it seems clear that as the surviving boy grew older, he showed an aptitude for healing injured animals. Gossip said that he practised on injuries he had inflicted himself on birds and wild animals, deliberately dislocating the legs of unlucky chickens, but however he honed his skills, in a rural community where livestock were so economically vital, this healing would have been highly respected. As Thomas' reputation blossomed, people began to visit him seeking treatment for their own injuries, as well as those of their animals, and Doctor Lloyd began to bring him in to help with his own patients. The young Thomas learned rudimentary anatomy and surgery from him. After doctors

[29] The language could also have been Gaelic, or even Manx. The wreck happened not long after the second Jacobite rebellion (led by Bonnie Prince Charlie) failed, and another theory is that the boys may have been part of a family attempting to escape to the continent.

had tried and failed to cure local aristocrat Lady Bulkeley's problem finger, Thomas treated her successfully. Her husband was so impressed that he commissioned a marble plaque, commemorating Thomas as 'a most skilful bone-setter'. It was erected in Llanfairynghornw church.

In his biography of Hugh Owen Thomas, David Le Vay quotes a contemporary of Evan Thomas' as saying:

> He seems to have acquired a most consummate knowledge of osteology, for cases desperate in the extreme have been treated by him with…success. His reputation has not only spread through his native country but has made its way into England, where some unfortunate sufferers have experienced his superlative skill. This very day I have been informed that a messenger arrived at his house from Shropshire with the tender of a fee of three hundred pounds for his immediate assistance (2).

The huge fee offered for treatment demonstrates how highly bonesetters were thought of by their patients, if not always by qualified doctors. Indeed, bonesetters had a vital role in rural communities where no one thought of sending for a doctor to treat bone or joint injuries, and where the doctor himself would send for the bonesetter when faced with a fracture or dislocation. The tradition was kept in the family, and passed down from one generation to the next.

Evan Thomas married a Caernarvonshire girl in 1763 and had four sons. The third son, Richard Evans,[30] was a pious farmer who treated his neighbour's injuries for free, but despite his piety, he had a ferocious temper. Once, at a fair, some youths mocked him and one of them pretended that he had a dislocated shoulder. Evans grabbed him so hard that his shoulder really became dislocated and the troublesome lad then had to beg Evans to put him right.

[30] Note the Welsh patronymic custom of naming sons after their fathers – thus Richard ap (son of) Evan became Richard Evans. Richard, the third son, was born in 1772. His children seem to have reverted to their grandfather's name.

Richard Evans had seven children: three sons and four daughters, all of whom became bonesetters.[31]

The eldest, and the one who concerns us here (Hugh Owen Thomas' father), is another Evan, who left Wales in 1831 and set up a practice in Liverpool. He had decided that he would join two of his sisters who worked as bonesetters in Wisconsin, but he ran out of money. To earn enough for his sea passage he got a job in a Liverpool foundry where he began treating his co-workers' injuries. Word spread, and eventually he set up a practice at 72 Great Crosshall Street. To begin with, Thomas' patients were mostly from the working class, but as his reputation spread, so did his clientele. Eventually his patient list expanded to include anyone, from dockworkers to dukes. In the place of anaesthetics, Evan Thomas used to have a music box playing to distract, and possibly to drown out the noise made by his patients. Many other doctors happily referred cases to him for some time, but then it seems that professional jealousy began to get in the way.

Actually the story is not quite that simple. It appears to be true that Thomas' reputation (and consequent earnings) rankled with some of Liverpool's medical men, but this was also a time of major change in the profession. In 1858, the year after Robert Jones III was born, an Act of Parliament made it compulsory for all doctors to register.[32] They could only call themselves doctors if they had formal qualifications, and though he tried to register, Evan Thomas had no such qualifications.[33] Registered practitioners, who saw themselves as well educated and fully trained men, resented their paying public attending an unqualified bonesetter.

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[31] *Meddygon esgyrn* in Welsh.

[32] The first real survey of doctors in England (in 1804) showed roughly nine irregulars (the untrained) to every one regular.

[33] Thomas' 'relationships with qualified doctors were cordial and co-operative to begin with, and the public thought so highly of him that in the 1840s an abortive move was made to get him appointed to the staff of the David Lewis Northern Hospital' (Thomas, G. 4).

This was a time when professional hierarchy placed physicians (university educated gentlemen[34]) at the top of the medical tree – 'professional men, who used their heads not their hands, displaying the skill of learning, not of technology…eminent, distinguished, and proud' (Newman 1). In 1712, the physician Francis Guybon 'broadly defined the quack as anyone who practised physic but lacked a classical education and knowledge of the classical texts, implicitly condemning the surgeon and apothecary who strayed into the field of physic' (Pelling and Webster 106-7).

By the mid-nineteenth century, surgeons had separated themselves from barbers, even though barbers continued to display the red and white stripes on the poles outside their establishments, announcing their previous services of bloodletting and tooth extraction. The professional body of surgeons had only achieved its status by Royal Charter in 1800, whereas the Royal College of Physicians (London) was founded in 1518; and 'Although surgeons had been honoured by knighthood, there was still a prejudice against them: snobbishness apart, there was some reason for repulsion in pre-anaesthetic and pre-antiseptic surgery' (Newman 2).

Apothecaries could visit patients in their homes, and prescribe, dispense and sell medication. They charged considerably less than physicians, and therefore did much of their work among the rising middle and working classes.

Physicians and surgeons were united in suggesting patients were gullible and beguiled by the reputation rather than the skill of bonesetters. They thought bonesetters were quacks, and 'The quack was the enemy and also the scapegoat' (Pelling and Webster 106). They became protective of their positions, and this

[34] Edinburgh, if he could not afford either Oxford or Cambridge.

inevitably led to animosity between some of them and their lay equivalent. The fact that Thomas' patient list was so wide suggests that patients went where the treatment was most effective, and may have chosen a private bonesetter rather than risk being admitted to a hospital, which, given the conditions of the time, was often seen as a death sentence.[35]

Whatever the reasons might have been, any of Thomas' patients who were unhappy were encouraged by some local doctors to bring malpractice cases against him. He was even charged with manslaughter.[36] Three cases came to trial. In the first, in 1849, 'the coroner cleared him completely but alluded to reports of a medical conspiracy against him' (Shepherd 160). The doctor who had performed the post-mortem and testified on Thomas' behalf was ostracised from the Liverpool Medical Society. In 1854, the barrister who defended Thomas against a charge of neglect resulting in amputation said of him:

> The medical profession will not leave him alone. Mr Thomas does not profess to be a pathologist or physiologist, he merely professes to be a bone-setter. He has rectified cases after the medical men have failed. He has performed cures. And if his opponents and he were weighed in the balance of truth and justice I know who would touch the beam, carriage and all, if we had fair play (Le Vay 12).

In 1860, when Thomas was found not guilty of manslaughter,[37] the large crowd who had gathered outside the courthouse led him away with a brass band playing 'See the conquering hero comes'.

Although Evan Thomas was never found guilty, his experience of hostility from the closed ranks of registered doctors meant that he ensured his sons were

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[35] It has been said that 'one needed a very sturdy constitution to endure the combined attack of a disease and a doctor' (Bensusan).
[36] One of Thomas' patients, a local cooper, died from a septic hand wound that led to tetanus in 1857.
[37] Thomas' medically qualified sons gave evidence on his behalf at this trial.

properly qualified.[38] Clearly he wished to spare them the trials and tribulations he had suffered, but perhaps he also wanted to protect and legitimise the bone-setting craft that was their heritage. Thomas' insistence on his sons becoming qualified professionals might be read as one of the first moves to bring orthopaedics into mainstream medicine.

This history is relevant to Robert Jones for several reasons.

First, the timing is important. The Medical Registration Act of 1858 meant that by the time Jones began his apprenticeship and training, he had no choice but to qualify formally, despite his lack of academic inclination.

Second, it shows the bitter animosity felt by many members of the medical profession towards the practice of bonesetting, which although not a science did have considerable status in the community, and may account for some of the resistance from them towards Jones' efforts to make orthopaedics a medical specialty.

Third, it illustrates some of the family traits to which he would have been exposed during his formative years, more of which are examined in detail below.

Hugh Owen Thomas

The oldest and most famous of Evan Thomas' sons was Robert Jones' uncle (by marriage), Hugh Owen Thomas, born in Anglesey on August 23rd 1834. Most of Evan's children went into medicine. Hugh, Richard, Evan Jr., Owen, and John were

[38] A play called *The Bonesetter of Crosshall Street* by William Hywel, an Anglesey GP, was performed first at Cemaes Bay, and then at the Liverpool Playhouse on Tuesday April 3, 1951. Set in Liverpool in 1854, it dramatises the events of two of Evan Thomas' trials, his estrangement from the medical profession and the debate about whether his five sons should receive professional medical training.

all qualified doctors, all but Owen being members of the Royal College of Surgeons. A sister, Ann, was a bonesetter who returned to Anglesey from Liverpool after her father's death. 'She would always see that the horse of any patient coming to Bryneglwys would be seen to before the patient'.[39]

A thin, frail child, Hugh was sent from the unhealthy city atmosphere of Liverpool, where his parents lived, to be brought up by his grand parents in Rhoscolyn, Anglesey, until he was thirteen. There he learned the value of clean fresh air, a lesson he passed onto his slum patients when he set up his own practice in Liverpool in 1858. He frequently placed babies in boxes tied to railings in order for them to benefit from the thin light that managed to glimmer through the densely packed buildings and polluted air of the dockland areas he visited on his daily rounds. He passed the lesson on to his nephew too, evidenced by the fact that the hospitals Robert Jones had a hand in planning and designing later in his career were open air: no glass in the windows, no walls at all in some cases.[40]

Just as Robert Jones III kept it in the family, so to speak, by becoming his Uncle Hugh's apprentice in Liverpool, so the young Hugh began his training as an apprentice to a maternal uncle, Dr Owen Roberts of St Asaph, where much of his clinical experience was gained in the local workhouse infirmary. [41] [42] From there he went to Edinburgh in November 1854, living frugally on an allowance of ten shillings

[39] Family archive material.
[40] The section about Jones' colleague, Agnes Hunt, in the next chapter, has more on this treatment.
[41] The smallest city in Britain, with a population of just over three and a half thousand, St Asaph has a cathedral that dates back to the 15th century.
[42] Thomas became friendly with a boy at the workhouse called John Rowlands (1841-1904), who went to America, where he was 'adopted' by a New Orleans shopkeeper and changed his name to Henry Morton Stanley – the same Stanley who Robert Jones heard with his father talking about finding Dr. Livingstone.

(50p) a week. This was at the same time as Joseph Lister[43] was a young house surgeon and beginning his work on antisepsis, work which influenced both Thomas' and Jones' practices. Hugh Owen Thomas qualified in 1857, the year Robert Jones was born, and returned to Liverpool to work with his father. Things became increasingly strained, however, and Hugh set up his own practice in 1866.[44]

In some respects we can see Hugh Owen Thomas' inheritance from his bonesetting predecessors. Bonesetters made their own splints, as did Thomas. He said, 'Some of the bonesetters who practised in past time were in some few special matters superior to their qualified contemporaries…but this assertion does not apply to their general knowledge or practice' (W 49-50). Thomas stood between his ancestors and his own scientific and medical training. He could – and did – discard the secrecy and superstition involved in the ancient art of bonesetting, but made use of what was proven as sound, both historically and scientifically. For instance, he followed his father's example of conservative treatment by performing far fewer amputations than many contemporary surgeons. However, unlike his qualified contemporaries, he did not share his practices directly with his peers: he never held a hospital appointment; he did publish,[45] but mostly privately and the results were poorly distributed; despite being elected a member of the Liverpool Medical Institution in 1876, he gave no papers on orthopaedics there during his sixteen years

[43] Robert Liston and James Syme were Lister's immediate predecessors in Edinburgh. Both were famous for pioneering orthopaedic procedures. Liston was reputed to perform an amputation in 28 seconds. Syme performed the first amputation at the hip in Scotland. Lister, horrified by the prevalence of hospital gangrene, promoted the idea of sterile surgery using carbolic acid on both instruments and wounds. He also made surgeons wear gloves (designed by Goodyear), but this was because one of his nurses developed dermatitis from the carbolic spray.

[44] His younger brother Evan lived and worked just a few streets away, but there is evidence that Thomas hardly spoke to him either.

[45] Thomas employed his own printer and acted as his own publisher. 'The printer, a quaint character, whose name was Dobb, lived in a small shop in Gill Street. He was a factotum and publisher, although in the later editions the name of H.K. Lewis appears on the covers. Very few were sold, and the remainder occupied a large room in Mr Thomas' house in Nelson Street (Sir Robert Jones, 1913)' (Keith 10). He did publish a short paper on wiring jaw fractures in *The Lancet* in 1867.

of membership.[46] He had scathing views of many of his fellow medical men – what Robert Jones described as 'a total disregard for the sanctity of authority' (Le Vay 64).

There is, though, little evidence that Thomas wished to veil his work in mystery. Having refused to attend meetings at the British Medical Association, they came to Nelson Street in 1883 (ten years after Jones had joined him) where Thomas happily demonstrated his treatments for thirty cases of patients afflicted with tubercular hips. He willingly and generously shared his methods and knowledge with those who came to his door, especially from America, and he was most particular in what he taught his nephew and sole apprentice, Robert Jones.

John Shepherd gives an account of Dr John Ridlon of Chicago's first visit to Nelson Street:

> In 1887 he walked into the surgery and proffered his card, 'I entered the drug room, a woman was holding a screaming child on the stained counter; a little man in clergyman's coat, a smoke-room steward's cap, thick-lensed spectacles and a brindled beard was wrenching the club feet of the child…He said "What can I do for you Dr. Ridlon?", I replied, "I have read your book on the Hip, Knee and Ankle, and I have come over here, three thousand miles, to find whether you are a liar, or I a fool". His eyes twinkled, and he said, "I think we can find out in about half an hour".' Ridlon was immediately impressed and returned to the States to spread the new gospel (191).

Friendly and helpful as he was to visitors such as Ridlon, even during his own medical training he seemed to have little tolerance with the profession as a whole.[47] Naturally shy and nervous, Thomas masked this characteristic with brusqueness, especially in his writing.[48] In Volume 1 of Robert Jones' 1921 *Orthopaedic Surgery*

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[46] According to the Institution's records, Thomas only attended on five occasions during that time. On two occasions he took part in discussions following papers given by his nephew, Robert Jones.

[47] Both Hugh Owen Thomas and Robert Jones became close, personally and professionally, to Ridlon. Thomas recognised and supported a fellow traveller whose methods sometimes got him into trouble with older members of the profession.

[48] 'There is the contrast between the trust given to him by all his patients which reflects his great humanity and the virulence of his pen when he attacked the orthodoxy and obstinacy of his colleagues.' (Shepherd 192).

of Injuries, Thomas is quoted as saying, 'Several of my friends have expressed their objection to the habit I have indulged in, of criticising the treatment of others.[49] My answer is that the errors of past practice must be laid bare, otherwise the reformed treatment is apt to be leavened with the errors of the old' (19). It is asserted that Thomas showed open hostility towards 'the men who sought to borrow authority from their official status and worldly position' (6), and Ridlon supports this by naming names:

> Thomas seemed to me to feel keenly the attitude of the physicians and surgeons of his country, that he was ostracised professionally, and this appeared to be true. I visited McEwen in Glasgow, William Adams in London – the most well-known orthopaedic surgeon of his time – Chance, of the City Orthopaedic Hospital, Noble Smith, successor to Chance, Howard Marsh, Muirhead Little, and many others, and not one of them had a kind word to say of Thomas. But I was able to compare their work with his. One could gain more useful knowledge following Thomas round for an hour than anyone else in Great Britain for months. The art of medicine is to observe, to correlate these observations, and to reason logically to conclusions that must become the true principles of practice. It was these qualities which made Thomas great. He insisted on right principles, not on this or that mechanical appliance, and the soundness of his teaching is now substantiated by the verdict of experience and time (Le Vay 54-5).

One of those with whom Thomas fell out spectacularly was Sir Frederick Treves, of Elephant Man fame. Treves, a pioneer in abdominal surgery, wrote a prize-winning essay on treating intestinal obstruction surgically.[50]

Before Treves wrote his essay in 1884, the abdomen was regarded as an area wise surgeons would not enter. However, this did not stop them from treating intestinal obstruction, perforation or paralysis. Treatments ranged from trying to electrify the intestine back into motion, to administering enemas of turpentine or

[49] According to Orr he described the treatment of Mme. Dudevant (George Sand) with an effervescent liquid injected into her bowel as a 'painful, irrational, useless procedure' (29).
[50] Treves famously performed an appendectomy on Edward VII two days before his coronation. Ironically, Treves' own death in 1923 was due to peritonitis.

mercury. When these treatments failed, which they inevitably did, Treves recommended surgical intervention, and it was becoming increasingly successful.

Thomas had published his own essay on the subject a year earlier than Treves. In it he recommended what he called ‘nature’s way’ – resting the bowel by starving the patient, the only intervention being sips of water and injections of opium to fend off the worst of the hunger pangs.

A lively debate on the subject took place at the Liverpool Medical Institution in October 1884. Robert Jones was already qualified and working with his uncle by this time, so it is likely that he was there. The debate makes it clear that even in Liverpool doctors were divided between supporting Thomas’ way of doing things or resorting to surgery. The resulting furious response suggests that Thomas was slighted by not being included in Treves’ work. Since the distribution of Thomas’ publications was so haphazard, Treves’ claim not to have heard of him seems fair, although this would merely have confirmed Thomas’ views about the smug arrogance of those working in London.

Thomas rather enjoyed being an outcast, relishing the role, as Le Vay puts it, of ‘lonely prophet preaching a true gospel to the unheeding’ (75). However, the story is important because it shows Thomas reiterating his role as physician in preference to surgeon. Unfortunately, his vigorous argument may have contributed to the unnecessary holding up of the development of abdominal surgery.

Thomas is crucial to the story of Robert Jones, but although the apprentice took much from his Uncle Hugh, including his work ethic and his unbending commitment to certain principles of orthopaedic treatment, he did not continue with Thomas’ policy of confrontation, favouring the collegiate approach instead.

Thomas' Principles

From the very beginning of his training, Jones was steeped in Thomas' ideas, which boiled down to two basic principles. First, continuity of treatment: '…[Thomas] sees a case in its initial stage, he takes it under his personal supervision, and can often follow its progress to the end' (Keith 7). Second, he used surgery conservatively, believing that in the restoration of function to an injured person, surgery was often more detrimental than beneficial. There were alternatives to the scalpel.

In the treatment of bones, the formally trained Doctor Thomas differed from the earlier bonesetters in his family in one major respect. He was totally committed to close anatomical observation and meticulously recorded all his cases. He believed that only someone with a thorough knowledge of anatomy could be successful in his field, although he was also known to wonder how much healing was due to him and how much to nature, convinced that living tissue possessed the power to repair itself. One of his biographers said, '…he repeatedly paints the picture of eminent traditionalists inflicting useless and unnecessary suffering on patients whose only hope of recovery lay in being left alone' (Le Vay 64); another that he 'had a sublime confidence in his apparatus, and in himself' (Orr xiii).

> His field of observation was the steady stream of accident cases which poured into his surgery from the dock-land of Liverpool. His field of experiment lay in his upper workroom, where, in workman's attire, and with the hand of an expert, he wrought the exact form of splint…which he desired for the treatment of each particular case which came under his care. Here, then, is a surgeon of a new kind, one who could and did use his knife, but it was his final and fixed opinion, founded on thirty-three years crowded with experiments on orthopaedic cases, that the blacksmith's hammer, deftly used, was, in most cases, a more powerful reparative instrument than the surgeon's knife (Keith 6).

The Factories Acts define an accident as something that involves an injured person in more than three days incapacity from earning full wages. In these days before trades unions or legislation protecting workers' rights, three days or more loss of wages could have devastating consequences on family life. The 'steady stream' of cases to which Keith refers would have involved a range of injuries from a tool's split handle penetrating the user's hand, to damage from a fall or crush.

In towns and cities, general surgeons, who obviously favoured surgery as treatment, normally dealt with bone and joint problems as part of their daily business, but the results of this approach to fracture treatment were frequently poor for patients. Almost inevitably, surgery resulted in shortened limbs, and surgeons simply accepted that patients would often be left with chronic disability. Since treatment was normally conducted in general wards, sepsis often set in leading to amputation of the now infected limb.

Thomas' work in Nelson Street was heavily influenced by the germ theory work in the 1860's of Pasteur and Lister, and he adhered passionately to principles of cleanliness, although later he would revert to irrigating wounds with saline solution rather than carbolic acid. This is perhaps one of the reasons he refused to work in hospitals. In *The History of the Royal Southern Hospital*, Dr Charles Macalister writes a shocking account of a surgical procedure conducted in the hospital:

> Every member of the Staff was present, together with the nurses and students. There were no precautions taken with reference to the cleanliness of their garments. The surgeons wore old surtout coats bespattered with the blood and other discharges from previous operations. I believe that the bespattering added to the respectability of the history of the garment. The sleeves were probably unbuttoned at the wrist and rolled up. The lapels of the coats were buttoned across to prevent soiling of the shirt and collar of the operator. It will be noted that it was the operator not the patient for whom this solicitude was exercised. Then came the female staff. The matron was generally present at these major operations. She and the sisters wore stuff dresses long enough to trail on the floor of the theatre. The nurses wore their ordinary pink uniforms. The

> students came direct from the wards, containing plenty of septic patients, or perhaps even from the post-mortem room. Soon after the operation commenced, old Dr Nottingham walked into the theatre wearing his very tall silk hat, which he did not remove. The patient was covered with a red blanket used for every operation and only washed when it was sufficiently soiled. When a certain stage in the operation had been reached, each member of the Staff, including Dr Nottingham and some of the students, was invited to dip his hands in carbolic lotion and to examine the growth which was about to be removed. Thus numerous half-disinfected hands surmounted by dirty sleeves came in contact with the highly susceptible surface. While the operation was being completed, Dr Nottingham requested the student attending to the spray to explain its workings, which were very effectively being carried out in relation to a ring of backs surrounding the patient, but very little of the antiseptic vapour was getting into the vicinity of the seat of the operation. After the antiseptic dressing had been applied, the patient was placed in a side ward adjoining the theatre, where she died a few days later of blood-poisoning, thereby adding to the want of faith in the antiseptic system on the part of those who had so inadequately carried out their principles (29-30).

Although the procedure described is not orthopaedic, the story is relevant in that it illustrates how long it took theories to become absorbed into general practice, and reflects how long it took orthopaedics to become accepted as a legitimate branch of medicine.

Macalister reminds us that hospital wards then contained a mixture of medical and surgical patients. There might be a typhoid or pneumonia patient lying next to someone with a fracture or suffering from a septic surgical condition. The physicians and surgeons would go from bed to bed handling an infectious patient one moment and a surgical case the next. They were the carriers of sepsis on their hands, their clothes and their instruments – ‘over and over again has one witnessed the taking of a pocket scalpel…or a probe…from a seldom cleaned leather pocket case, or direct from the waistcoat pocket…’ (31). Of course, these were the days when it was thought there was such a thing as ‘laudable pus’ – considered an indicator of healthy healing.

Management of joint diseases such as tuberculosis was crude, and naturally surgeons favoured the surgical approach, excising the infected joint.[51] High failure rates meant that surgeons recognised that unqualified bonesetters possessed skills in diagnosis and manipulation, which were beneficial to patients. Therefore they still often referred their patients to bonesetters, despite its unscientific background.

Thomas had learned from his bonesetter father that there were alternatives to surgical intervention which were frequently much more effective. He held the holistic belief, one he passed on to his nephew, that it was his duty to think about the whole patient rather than just the affected part, and as the majority of his patients were drawn from the working class, his main aim was to restore their ability to work and therefore earn. However, he did not compromise on the length of time a treatment might take. Intestinal obstruction, along with many other conditions, was treated by rest – 'enforced, uninterrupted and prolonged',[52] for up to thirty days. And enforce it he did. If he discovered on a visit that a patient had loosened a splint or bandage, the patient would be soundly reprimanded before Thomas reapplied the support, and then attached a large pin, which he would seal with wax marked 'H.O.T.' from his signet ring.

Goronwy Thomas gives an example of how the rest remained uninterrupted: '…in his treatment of tuberculous knees by the use of a walking calliper…he would personally change his patient's socks (every six weeks!) for he could not trust the patient to do this himself without moving his knee.' (8) In order to facilitate a patient's return to work, splints were designed to provide rest to the joint while the body could be mobile.

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[51] Surgical excision involves the cutting away of infected tissue with a scalpel or other cutting instrument.
[52] This phrase is quoted in almost all writing about Thomas. It was one of his mantras, and was applied to all treatments.

He ‘achieved his excellent results by astute diagnosis, skilful manipulation and the maintenance of the corrected position by the application of ingenious splints which he prepared in his own workshop and adjusted to the needs of each patient’ (Shepherd 161). David Le Vay quotes Thomas as saying the following about patients who came to see him after unsuccessful hospital care:[53]

> Early in my practice I began to deviate from the ordinary paths of treatment which induced surgeons to perform amputation or excision of joints, so that I have a very limited experience of this operation, but as I dwell in a large town endowed with several large hospitals in charge of enterprising surgeons, who inspired by the spirit of the time, prefer to cut mechanically what can be unloosened physiologically, my observations have been ample and confirmatory of my opinion (82).

Thomas was not averse to using the knife when he deemed it necessary. This account, in his own words, neatly illustrates not only his own skill and judgment, but also the potentially fatal misjudgement of a senior surgeon:

> Having a case of laryngitis which I thought required operation, I invited an elderly and more experienced surgeon than myself to assist me in diagnosing whether an operation was required and we concluded not. This was about 9 p.m. At midnight I received a message informing me that the patient was dead. I partially

[53] Shepherd cites his source as LeVay’s biography of Thomas, p.82.

> dressed, and armed with a tube and knife only ran off as fast as I could go, a distance of three hundred yards, and found the patient pulseless and breathless. I at once threw him across the bed with his head dependent, opened the trachea, inserted tube, and while one of the females sponged the orifice of tube and neck practised artificial respiration….In three hours the patient was conscious, and is alive and well at this date (Le Vay 63).

Thomas passed his prodigious work rate on to his nephew. Jones spent some holidays in Liverpool with Dr. and Mrs. Thomas where, according to T.P McMurray, one of Jones' assistants:

> …most of the time was passed among the lathes and on the carpenters' benches where Hugh Owen Thomas was always working out some alteration or improvement in one of his many types of splints. Nothing can better show the character of the boy than the fact that at the age of fourteen or fifteen he was frequently working until midnight under the guidance and inspiration of his uncle when most boys of his age would have been thinking only of amusement (De Mortuis).[54]

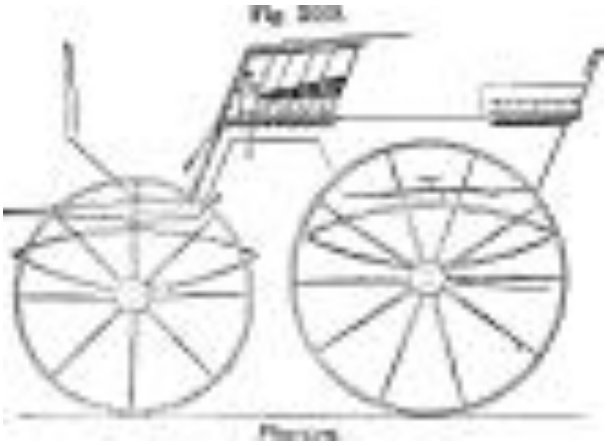
Jones was not simply the work-driven boy McMurray presents. On one occasion, Uncle Hugh was working in his surgery, and the young Robert, had joined him. He takes up the tale himself:

> I was…playing with an old flint-lock Arab gun and from time to time flashing the pan. My uncle was making up his accounts at an open safe. To my horror the gun went off, the bullet passed his head by only a few inches, and became deeply embedded in the wall. I was distracted with fright, but all he said was: "Don't do that again or you may end your life on the gallows, and don't tell your Aunt or she will never trust us together again" (W 62).[55]

[54] This pamphlet is not paginated.

[55] Jones was a keen shot, and also rode to hounds. Just a month before his death, he wrote, 'I think I should give up shooting…[it] is not the same as it used to be, when birds fell to my gun and when I could climb hills' (W 298-9).

Thomas was up and on his rounds by five or six in the morning. His transport was a phaeton, which he had adapted in his workshops. A phaeton is a carriage essentially designed for showing off. Despite its aristocratic associations, it was the carriage of choice for the eighteenth century equivalent of today's boy racers: the driver sits up very high so he can be seen, and the carriage is designed to be driven at tremendous speed. The Prince Regent drove one – before he got too fat. Thomas' high visibility was enhanced by the fact that his phaeton was painted scarlet and drawn by two magnificent black horses. Local people called it 'the fire engine'. At night a torch flamed at each corner. Since so much of a doctor's work then required him to visit his patients, all doctors needed their own transport. However, few had anything as extravagant as Thomas'. His beautiful, elegant wife, Elizabeth, often accompanied him on his rounds, as did the young Robert Jones; first as a visitor, later as apprentice.



A phaeton from a seller's catalogue of the mid nineteenth century.

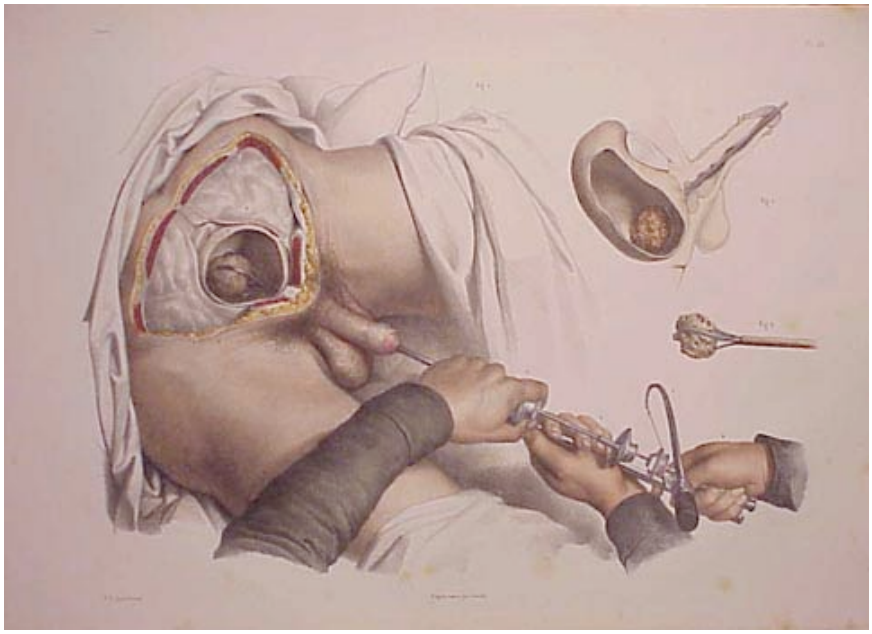
After rounds, Thomas would have a ten minute breakfast, usually comprising a cup of tea and a couple of the then exotic bananas (obtained, legally or otherwise,

from his dockyard patients[56]), before starting his clinic at Nelson Street, where he would see between thirty and forty patients before a meagre lunch at one. This was followed by an afternoon of more appointments. Sometimes he would perform operations at Hardy Street.[57] Although Thomas' reputation today is as an orthopod, his work was far more general than that. Surviving records from Hardy Street, illustrated with small pen and ink sketches of splints and procedures, show him treating a variety of cancers for example, and Le Vay quotes the following description of a lithotomy:

> At 4.30 Thomas is to remove a stone from an old man's bladder, a favourite operation for which he had invented special instruments by which it is so simplified that failure is impossible. Perhaps we were more callous in those days or our patients more plucky, for I have a vivid recollection of seeing the old man lying on his back on a rug and undergoing his twentieth operation for a crushing stone. The scene was very dramatic, Thomas intent and solemn was using his lithotrite, an assistant holding the hands and pelvis, the old man groaning and a black cat perched on a chair furiously spitting (35).

[56] Bill Naughton's delightful short story, *Seventeen Oranges*, gives an account of what might happen when a dockyard pilferer gets caught.

[57] 'His [Thomas'] operations were almost entirely tenotomies [tendon cutting], but he was able to correct the most resistant deformity by manual force and the use of a wrench' (Platt 2). 'This style of wrench, introduced by Thomas c. 1865, was used to untwist club feet…a more disturbing item which he invented was an instrument which broke the deformed bones of children between its three legs. However cruel this may seem today it marked a great advance upon the previous method of cutting through the bone and then breaking it with a mallet and chisel' (www.rcpsg.ac.uk).



An illustration from Jean Baptiste Marc Bourgery's *Atlas of Anatomy*, an eight-volume collection finally completed in 1854, five year's after the author's death (and three years before Thomas began practising). Nicolas Henri Jacob (1782-1871), a student of the artist David, created the spectacular hand-coloured lithographs. This one shows a lithotomy – the removal of a bladder stone. Note the surgeon is not wearing gloves. The operation was dangerous, it being all too easy to puncture the bladder or the rectum or a major blood vessel. The Hippocratic Oath included the words, 'I will not cut for stone…I will leave this operation to be performed by practitioners' (surgeons as distinct from physicians). One famous lithotomist was a travelling friar, Brother John. He may be the same Brother immortalised as Frère Jacques in the nursery rhyme. Oliver Cromwell, Samuel Pepys and Napoleon Bonaparte all suffered bladder stones.

Thomas would then open his clinic at Nelson Street again between six and seven before some further home visits.[58] At night he would work at the lathe adapting a splint for the needs of a particular patient, until about midnight. Arthur Keith summed it up as follows:

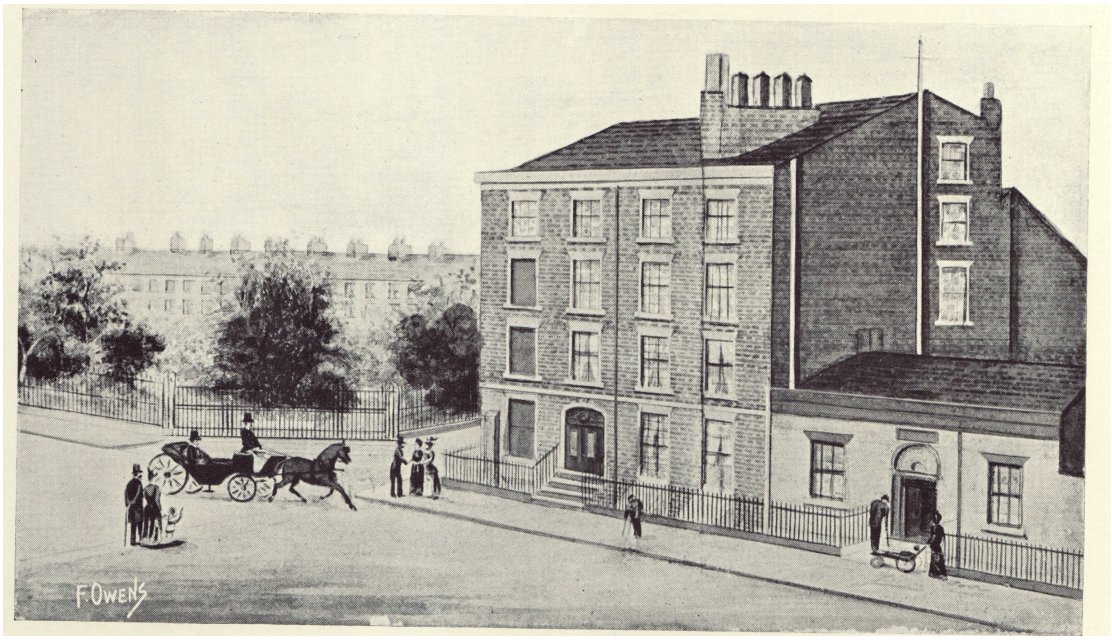
> He realized that no two people are shaped alike, and that the splint must be accurately moulded for each patient, and only one with a knowledge of anatomy could apply it. He therefore chose a pliable material – wrought iron – of sufficient strength, and invented the tools by which it could be shaped, and adjusted the splint to the patient's body with his own hands. He considered that the fitting of a splint was the surgeon's duty (13-14).

[58] On average, Thomas saw 80 patients a day, although one visitor from the US (probably John Ridlon) noted one day when he saw 146 patients in Nelson Street and 16 more at their homes.

His day's observations would then be recorded in his notebooks. It seems extraordinary – Le Vay calls it 'something of a miracle' (61) – that Thomas found the time to write even these notes, much less author his published works.

The Nelson Street clinic Thomas established, and continued as a surgery by Robert Jones, was originally housed in a modest looking one-storey brick building, but this had to be extended to include a wing for workshops. The solid wooden door had a fanlight above it, over which was a concrete plaque[59] saying simply:

H. O. T.
SURGERY
1866



[59] Bombs destroyed 11 Nelson Street in 1942. However, the plaque was rescued intact from the rubble and is now above the Robert Jones Library in the Liverpool Medical Institution. 1866 records the date Thomas set up practice here. Prior to that he was in Hardy Street. When he left there he retained the premises and had them converted into a private 8 bed hospital. Before that he spent his first year as a qualified doctor practising with his father. Thomas qualified in 1857, the same year as his nephew, Robert Jones, was born. Nelson Street still exists as part of Liverpool's Chinatown – the premises at No. 11 now sells takeaway food.

The picture is deceptive. The area looks leafy, spacious, and prosperous, but if the artist had turned round and drawn what was behind him, the scene would have been very different, and more typical of the area in which Thomas and Jones worked. The streets run down towards the docks. They are packed with back-to-back terraced housing and the ghastly courts, interspersed with Corn and Rice Mills, an Oil and Grease works, a Tobacco Warehouse, a Timber Yard, a Soap Works, a Cooperage, a Smithy, and much more. There was no clean air act as yet. The atmosphere would have been noisy and noxious. The 1891 census records 63 lodgers living in 9 Nelson Street, next door to the surgery. They included two seamen, a tobacco spinner, four shoemakers, thirty-four labourers, two strikers, and an accountant.

Thomas employed a fulltime blacksmith and a saddler who worked with him at the lathes making splints, and provided extra strength when a patient had an old dislocation that needed reducing. Men who had been injured at sea (often months earlier) would visit Thomas, confident that he could put them right. Any additional traction required was ‘obtained by casually recruiting a gang of labourers from the street outside the surgery’ (Le Vay 44).

Robert Jones is on the right of the picture. Hugh Owen Thomas wears the hat. There is no record of the names of either the patient or the assistant on the left. It's worth noting that the clothes do not distinguish doctor from patient. Perhaps that speaks to the robust physical nature of some orthopaedic work.

There was a large airy waiting room,[60] with comfortable furniture and pictures on the walls, and several smaller treatment rooms.[61] They were fitted with swing doors so that Thomas could exit hastily if a reaction to the pain he caused meant he needed to. His strong hands were matched by his manner, but he was otherwise a physically frail man of just five feet three or four inches, and many of his patients were stevedores and miners, burly men known to react aggressively to anyone causing them pain. Thomas dealt with numerous patients with broken jaws, the result of the personal justice meted out by such men.

Hugh Owen Thomas habitually wore a frock coat buttoned right up under his chin, huge gauntlet gloves, glasses and a sailor's cap[62] pulled down over a damaged eye.[63] In the evenings, he would swap the headgear for a blue velvet smoking-cap with a silver tassel. He usually had a cigarette clamped between his lips and carried a silver cigarette case, which is still owned by a member of the family. He took up smoking during the great cholera epidemic of 1864, nine years before Jones became his apprentice, as a precaution against infection. He is reputed never to

[60] An obituary of Robert Jones in *English Churchman* January 27th 1933 records, 'Many years ago we found ourselves in his waiting-room, and, taking up a popular magazine lying on the table, we were amused to find in it a very interesting illuminated article describing the abilities of the famous "bone-setter", Mr Henry Barker, who later also received the recognition of knighthood'. The obituary speculates whether Jones knew, and concludes 'he was too great a man to censor the admission of a magazine to his own preserves on account of its eulogy of an "unorthodox rival".

[61] An account by Ridlon (quoted in Le Vay) suggests women and men had separate waiting rooms: 'In the centre of the waiting room for men was a device for reducing old dislocations of the shoulder' (54).

[62] A second mate's discharge hat. Elizabeth Thomas said of him, 'At night he took his cares off with his cap and slept at once' (Le Vay 33).

[63] The lower lid of Thomas' left eye was damaged in an accident when a fellow pupil threw a stone at him when he was a schoolboy. It resulted in a permanently painful ectropion – the eyelid curling outwards permanently. He wore his cap pulled down over his eye to afford it some protection from sunlight and wind, and also to keep his own disability in shadow. As an adult, if he saw boys throwing stones in the street he would stand enraged at the door with a whip in his hand.

have taken a day's holiday during his working life. The only times he was absent from work were the three days a year when he visited his mother's grave in Anglesey. Even Sundays were no respite from work. Whilst his devout wife, Elizabeth, attended the Myrtle Street Chapel, together with the young Robert when he first arrived in Liverpool, he held free clinics at Nelson Street.[64] He 'regarded work as the best form of prayer and when, hurrying to his clinic one Sunday morning, he was confronted by the local priest with the blunt request why he was not on his way to church, merely replied: "If Christ was with us today, which one of us do you think he would accompany?"' (Le Vay 132-3). Patients queued for hours. The immobile were brought in handcarts, prams, wheelbarrows and donkey carts, and the queue stretched up and down many of the surrounding streets. Robert Jones continued these free Sunday clinics long after his uncle's death.[65]

This was years before the National Health Service (formed in July 1948) provided healthcare for all citizens, based on need, rather than the ability to pay.[66] Prior to this, the poor depended on home remedies (often rather dubious), workhouses and philanthropists like William Marsden.[67] Working men usually belonged to clubs that included the provision of medical care, but their wives and children did not have access. Thomas, and later Jones too, were medical officers to many such clubs in Liverpool.

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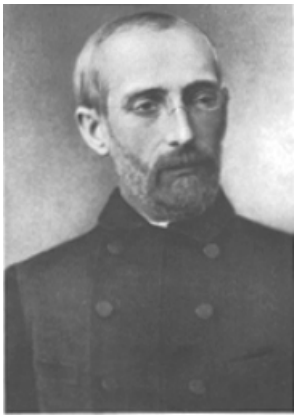
[64] In his adult life, Thomas was an agnostic. He was heavily influenced by the work of the first century A.D. philosopher poet, Lucretius, whose main purpose was to free the minds of men from superstition and the fear of death.

[65] Charles Macalister records '4,700 poor cases were seen annually' (12).

[66] Thomas 'believed in always making patients pay something, however small, to preserve their self-respect and value their treatment; but Elizabeth would provide the poorest with food from her own kitchen and Hugh would often send them home in a cab at his own expense and maintain them afterwards from his own pocket' (Le Vay 36). Despite this philanthropy, 'his income never fell below £3000 a year, a very respectable sum for those days, during the latter years of practice' (ibid. 134). To put the sum in perspective, it is what I earned in my first year as a teacher in 1977. The DNB gives the value of his estate on death as £11,148 10s. 2d.

[67] In 1828, Marsden set up a dispensary with the literal if pedantic title of the London General Institution for the Gratuitous Cure of Malignant Diseases. This later became the Royal Free Hospital.



Hugh Owen Thomas

Although Thomas was driven by work, he did find time for leisure. In the evenings, his wife Elizabeth would play the piano and sing and Hugh would accompany her on the flute he had modified himself in his workshop. In 1884, Jones and three of his student friends founded the Liverpool Medical – Literary society. Thomas became their treasurer and hosted the meetings, which were lively. They covered a wide range of topics, including the origin of man and Egyptology, and Thomas loved getting involved in the debates. Elizabeth Thomas described her husband as:

> …always delighted to have friends at our table and great and exciting were the discussions upon politics, religion, science and literature. He liked an opponent better than a person who agreed with him. He used to say that argument was the great antidote to mental stagnation. To this Robert Jones added in 1920: 'His prodigious memory and his agile mind made him an interesting figure in any discussion' (Watson 38).

Thomas died from pneumonia in January 1891. The *Liverpool Daily Post* carried a lengthy article describing his funeral. In spite of the freezing conditions, a guard of honour was made up of a hundred 'dockgatemen, pier masters, head gatemen, and lightship men…with whose friendly societies the deceased gentleman was prominently and most popularly connected':

> Among the sympathetic onlookers was an old man, about eighty years of age, who evidently felt the biting cold. The secret of his presence in the cemetery was that Dr Thomas had years ago rendered him valuable professional and gratuitous service and, as the octogenarian expressed it, had rescued him from the jaws of death. In spite of the cold wind and frozen snow, he remained to the last to testify his gratitude to his benefactor.

Thomas was only fifty-seven when he died, the clergyman officiating at his funeral saying, 'He used up every bit of life that was in him' (W 76), and in surviving photographs, he looks far older than his years. *The Lancet* reported 'A grief so profound and widespread as that which was manifested at Liverpool on the tenth instant when the remains of Dr. Hugh Owen Thomas were laid to rest, is seldom witnessed'.[68] Jones' own grief would also have been profound. He was just thirty-three, and had lost both his uncle (by marriage), with whom he had lived for the past eighteen years, and his professional mentor.

This was a key moment in his professional life. In *Civilization and the Cripple*, Watson writes, '…Robert Jones succeeded to the practice of his uncle…He made then and always the social salvage of the cripple his creed' (15), but this unorthodox work cannot have been a choice made without careful thought.

It was January 1891. At this point in his career, Jones had been a surgeon at Liverpool's Stanley Hospital for ten years, and Honorary Surgeon and Dean of Clinical Studies at the city's Royal Southern since 1889. He had set up his own practice at 22 Great George Square, just round the corner from his uncle's premises in Nelson Street, in 1885, and had been working as consulting surgeon for the Manchester Ship Canal Company since 1888. He had been married for three years, and the first of his two children had been born, his daughter, Hilda, happily photographed on her great uncle Hugh's knee. In the 1881 census, Jones' occupation is recorded as orthopaedic surgeon, so he had already begun to specialise, even though Hugh Owen Thomas always called himself a general practitioner, hoping he would be remembered for much more than his splints.

[68] Quoted from Frederick Watson's *Hugh Owen Thomas: A Personal Study* (71).

It would have been easy for Jones, and probably more lucrative, to commit all his energies to his hospital work and his own private practice. Thomas had confided in their mutual friend, the American orthopod John Ridlon, his doubts that Jones had enough 'fighting spirit…to fight for the right principles' (W 79), and Ridlon suggested that Thomas had stirred up so much hostility among medical men, both personally and professionally, that 'Jones might have gained special recognition earlier had he not been Thomas's nephew and his associate in practice and then his successor at Nelson Street' (ibid.). Thomas' pugnacity had kept him – and by association, orthopaedics -in the margins, but Watson suggests that Jones, 'loyal to the lonely cause of his uncle' (80), was a greater fighter than Thomas 'because he used all the weapons of persuasion, argument and example' (79) to bring orthopaedics into the mainstream.

Thomas may have suggested Jones lacked 'fighting spirit', but where the uncle was aggressive and combative in his dealings with other doctors, the nephew was amicable, earning friendship and loyalty rather than provoking animosity. Where Thomas was caustic, Jones was pleasant. Where Thomas was solitary, Jones was more gregarious, not autonomous like Thomas, but symbiotic, encouraging those with whom he worked, and learning from as well as teaching them.

Many medical commentators, both then and now, commend him for spreading Thomas' principles. Indeed some have gone so far as saying that Jones' greatest legacy was making 'the main principles of Thomas acceptable to the profession'.[69] It is worth remembering that Hugh Owen Thomas was a general

[69] John Ridlon of Chicago, quoted in Watson-Jones, p.501.

practitioner with a particularly well-publicised expertise in dealing with bones and joints, rather than an orthopaedic specialist, as we might understand that today.

The dedication in R. Watson-Jones' 1940 book, *Fractures and Other Bone and Joint Injuries,* reads:

> To
> Hugh Owen Thomas
> Sir Robert Jones
> C. Thurstan Holland
> They, whose work cannot die, whose influence lives on after them, whose disciples can perpetuate and multiply their gifts to humanity, are truly immortal

There is no full stop, an omission that appears deliberate in view of the preceding words. Watson-Jones gives a lively and vivid description of Thomas at work:

> With irrepressible energy and fortitude, this eccentric man darted along the corridors of 11 Nelson Street, terrifying and cajoling a multitude of patients, despising the professional manner, scorning anaesthetics, whipping a wrench from beneath his tail coat, refracturing and resetting a malunited fracture before the victim had time to think. Power, prestige and reward were as nothing to him, but he won such a place in the hearts of seamen, dockers and housewives, that when he died in harness they lined the streets of Liverpool in their thousands, sobbing their testimony to the friend they had lost. His was a sleepless search for truth. He fought aggressively and fearlessly. That his teaching endured is the great triumph of his nephew Robert Jones (501).

Hugh Owen Thomas on the left, the usual cigarette in his mouth, Robert Jones on the right. 11 Nelson Street, where this photograph was probably taken, had a dark room.

Before Jones could father orthopaedics, he had to become a doctor.

During his professional life, the training for physicians and surgeons changed a great deal.

Clement Bryce Gunn undertook his medical training at roughly the same time as Robert Jones.[70] His autobiography, *Leaves from the Life of a Country Doctor*, reveals some first hand details about medical training in the 1870s. Boys in Jones'

[70] Born in 1860, three years after Jones, Gunn's fellow medical students included J.M. Barrie and Arthur Conan Doyle. He was also acquainted with Robert Louis Stevenson, to whom he refers as '"The Pirate", because of his lanky black hair, hectic cheek-bones, and bizarre velvet jacket…at that time he was considered an idle dilettante' (20-1). Gunn died in the same year as Jones - on Christmas Day 1933.

time commenced their studies much earlier than is conventional today 'I…was aged about fourteen' (Gunn 14) and Jones went to Liverpool at fifteen.

'There were at that time seven compulsory subjects for the Medical Preliminary Examinations: English, Arithmetic, Mathematics, Latin, French, Logic, and Mechanics. Greek was optional, but the degree of Doctor of Medicine could not be taken without it' (ibid. 15), and all this before he even got to university. Since Robert Jones was not a natural academic, it isn't hard to imagine that the studying required just to get him onto a medical course would have been a trial, but evidently he managed somehow, perhaps fired by his Uncle Hugh's dynamism.

Although the famous *Gray's Anatomy* had been published by the time Jones began his apprenticeship and training, it's possible that his key textbook was *Quain's Anatomy*,[71] first published in 1828. This would almost certainly have been his Uncle Hugh's anatomy, Gray's not being published until 1858, the year after he qualified. There was probably a copy of it at 11 Nelson Street. It is even possible to imagine the young Robert, on holiday in Liverpool as a child, browsing its then innovative illustrations. Previously, the inclusion of illustrations would have made the book prohibitively expensive. A review in the *Provincial Medical Journal* of the 5th edition of *Quain's Anatomy* states firmly that the text is not a substitute for the 'practical familiarity' (208) to be gained in a dissecting room, and an 1867 review in the *Journal of Anatomy and Physiology* of the 7th edition praises the fact that the presentation of 'the most recent microscopical and developmental anatomy in a clear simple manner with abundant good illustrations…elevate[s] the scientific

[71] Jones Quain, 1796-1865, an Irishman, first published *Elements of Anatomy* in 1828 at the age of just 32. In 1831, he was appointed Professor of Physiology at UCL. After his death, Professors Sharpey, Allan Thompson and Cleland took over the editing. *Gray's Anatomy* was first published thirty years later, when Robert Jones was just a year old.

character of…students' (355). Even as late as 1923, just ten years before Jones died, a correspondent in the *BMJ* is of the opinion that *Quain's Anatomy* is still 'generally considered the foremost work on anatomy in the English language' (836), although that view is more likely to have been personal preference rather than a reflection of sales figures or use by medical students of the superior anatomical text by Gray.[72]

Jones enrolled in the Liverpool School of Medicine. He was a fair boy with a constant smile, and wore a Glengarry cap with streamers. His youth and fashion sense made him the butt of jokes of his fellow students.

Medical training was shorter and less formal than it is now.

> Apprentices supplemented [their apprenticeship] by formal lectures at schools of anatomy, in Liverpool…The average number of students in each of these schools was about forty, and included not only medical students but also artists. Lectures were given on midwifery, medical jurisprudence, and diseases of children as well as on anatomy, and these lectures were recognised by the College of Surgeons and Society of Apothecaries for their diploma (Cohen 313-14).

In his biography of Jones, Frederick Watson says, Jones' 'student days…carry no dignity of learning, no prophecies by professors of medicine…no weight of outstanding scholarship…no symptoms of renown' (45). Indeed, the student Robert Jones failed his first medical exams in London in April 1875. He did pass these anatomy and physiology exams at the second attempt in July the same year, after which he spent a happy three days with his father in a hectic round of visits to the theatre, opera, concert halls and art exhibitions, hearing Adelina Patti sing and seeing a performance by the Italian Tommaso Salvini, an actor who claimed he could make an audience cry by reading them a menu.

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[72] See Ruth Richardson's (2008) *The Making of Mr. Gray's Anatomy: Bodies, Books, Fortune, Fame*.

Before 1884, to obtain a degree, a Liverpool medical student 'had to seek it as an external student of the University of London' (Cohen 315). John Shepherd adds, 'For certification by the Royal College of Surgeons of Edinburgh he was required to have served three years as an apprentice to a surgeon [which Jones was doing with Thomas], or to have attended the practice of surgery or medicine in a public hospital for one year (19-20).

Jones recalled, 'When I was twenty-one…I…had the privilege of signing myself a licentiate of the Royal College of Surgeons with an inflated pride that has never been equalled in my history' (W 46).

This chapter began with the Jones fracture, self-diagnosed using the x-ray machine he had just purchased. On February 22nd 1896, Robert Jones and Oliver Lodge, Professor of Physics at the University of Liverpool, published a paper in *The Lancet* entitled 'The Discovery of a bullet lost in the wrist by means of the Roentgen rays': 'A boy aged about 12 years was brought to me…having shot himself in the left hand…The wound was enlarged but the bullet could not be found, and it was thought injudicious to prolong the search in view of the important structures in the vicinity'.[73] This was the first diagnostic x-ray taken in Britain.

[73] The original x-ray is in the Charles Thurstan Holland archive at the Liverpool Medical Institution.

According to one source, the picture was given an exposure of one and a half hours.[74] Jones purchased the machine himself. It was set up in the basement of the Royal Southern Hospital where he worked, and managed by his friend and colleague, Charles Thurstan Holland.

A letter to Holland survives from 1936, three years after Jones's death. It is from a man who signs himself 'Maxwell Wimpole'. He introduces himself as 'an old patient and friend of Hugh Owen Thomas and Robert Jones', and recalls being present when his mother, Mrs. Wimpfheimer, translated Roentgen's article about x-rays for Jones.

Jones would have been excited about the machine, and not just because of its medical applications. He had a zest for technological innovation, perhaps fuelled by the curiosity his father had instilled in him as a child. He purchased a car before many of them were on Liverpool's streets. A colleague recalled, 'The noise had an advantage because it was heard from nearly a mile away so that the assistants were always on the spot when Robert came through the hospital door'.[75] He kept 'an amazing collection of entertaining gadgets' (W 287) in his Liverpool home, including a panatrope, and 'an immense gramophone, electrically propelled' (ibid.).[76]

So begins the re-membering, the reconstruction, of Robert Jones, and we have seen that the two most powerful influences on Jones' early life were his father

[74] Freda McMurray (neé Evershed), Jones' secretary, writing in the *JBJS* Centenary Edition.

[75] Bryan McFarland, Professor of Orthopaedic Surgery at the University of Liverpool, as previous footnote.
[76] A panatrope was a combined gramophone and radio, often 'portable'. It could be run by plugging it into a light socket, and grand claims were made as to the quality of its sound reproduction.

and uncle, both mavericks in their own ways. Jones' father defied the wishes of his family, did not become an architect to give middle class kudos to his builder father's business, married impetuously, and uprooted his young family to move to London and make a precarious living as a writer. Jones' uncle, Hugh Owen Thomas, was an autocratic, zealous workaholic. He too placed himself quite deliberately outside the professional conventions of the time. He never held a hospital appointment. He published little. He rarely lectured. His only pupil was his nephew, Robert Jones.

It is one mark of genius to be able to synthesise the best of what is around you, and Jones took his father's amiability and tolerance, and his uncle's work ethic, and combined them in his own practices, but these two men were not the sole influences on Robert Jones' personal and professional development. What about the women in his life?

RIBS

Susannah (Susie), wife of Robert Jones.

‘How much…lies hid; his sorrows, his silent struggles known to himself; much that was not known at all, not speakable at all: like roots, like sap and forces working underground!’ (108).

Thomas Carlyle *On Heroes, Hero-Worship, and the Heroic in History.*

In human anatomy, ribs are the long curved bones that form a protective cage for the heart and lungs. The *OED* gives a further definition of the word as being 'a ridge along a surface serving to support or strengthen or adorn', which provides a useful metaphor when thinking about some of the women in Jones' life: his mother, his aunt, his wife, and an important colleague.

The influence of Hugh Owen Thomas on Robert Jones' professional life is obvious. Becoming an orthopaedic surgeon and championing his uncle's principles makes that clear. Thomas gave Jones' life direction and purpose. He could have chosen a different career path from his uncle's, but he didn't.

The influence of the women in his life is less defined. This is partly because their lives are not so well recorded.

> There's a difficulty of identification, or perhaps I should say specification, when writing about middle- and upper-class women of the nineteenth century. Most of them had a very limited education, no professions, they led sheltered lives, were kept ignorant, lived under the protection first of a father, then of a husband…it's much harder to make a picture of an individual woman, to bring her out of the shadows into a hard outline and a clear light (Vine 106-7).

Mary Jones née Hughes

Robert Jones' mother, 'the beautiful Mary', is furthest back in 'the shadows'. Born in 1834, the youngest of six children, she went into service. The 1851 census lists her and her siblings as either house or farm servants. By the 1881 census, the family's fortunes had changed. A sister, Eliza, and a brother, Abel, were now

farmers rather than servants, Eliza running 90 acres, Abel 124 acres. After her husband's death in November 1875, Mary Jones returned to Wales, probably moving in with the unmarried Eliza.

Mary Jones, seated, in widow's black bonnet, holding baby Ethel on her knee. Lil and Hugh are on her left, Eleanor (Nell) and Bess on her right.

Little is known of her after that. Not long before she died in the spring of 1919, she wrote in a letter to her son, 'Dear boy, how proud I am of you. It is a great honour for me to be your mother. I always feel thankful for the day you were born. God bless you all the days of your life'. A friend of Robert Jones wrote in his condolence, 'A mother is a unique person for us, and though we grow in age and experience we are always their children'.

Watson says losing her was another 'cloud of personal sorrow' (229), coming less than a year after his wife's death. Jones' own feelings about her are not

recorded anywhere. However, his emotionally stable and harmonious early life must be, at least in part, due to his parents' happy marriage. Watson states that despite precarious finances, there were no rows at home, so Mary must have at least colluded in her children's 'unconventional' (W24) upbringing.[77]

Elizabeth Thomas née Jones

[77] By 'unconventional' Watson seems to mean the encouragement of curiosity and exposure to a range of experiences, including religious ones. Existence in Jones' childhood might be described as 'Bohemian' – living cheaply and not paying much attention to 'respectability'.

When she was twenty-five years old, Robert Jones' paternal Aunt Elizabeth married the solitary and driven Hugh Owen Thomas. She was a striking and glamorous woman, as can clearly be seen in the photograph of her on the previous page. But she knew what marriage to a doctor would mean. During their brief engagement, cholera broke out in Liverpool, and without hesitation Thomas 'flung himself into the heart of the ghastly slums where it was raging' (W 52).

A deeply religious woman, it must have been difficult for her to come to terms with Thomas' increasing distance from the church. But, together with her nephew after he came to live with them, she attended the Myrtle Street Baptist Chapel, which held two thousand people, 'and there was not an empty seat in it. On Sunday evenings, especially, all the pews were filled and chairs were brought into the aisles for the accommodation of the overflow of people'.[78] The young Robert and his aunt had come to hear Hugh Stowell Brown preaching:

> …a big man in every sense of the term- big in stature - big in his outlook on life and big in his love of the people. He devoted himself particularly, perhaps, to the working man. He always spoke very plainly and never wrapped up what he had to say, whether pleasant or unpleasant, concerning the ways of the world, in ambiguous language.[79]

Elizabeth and Hugh Thomas were childless, and it is tempting to imagine that she would have been pleased to mother first her nephew, Robert, then her niece, Eleanor, when circumstances brought them under her roof.[80] Certainly, she once said that her idea of happiness was to live with those she loved and was loved by.

What is important is the balance of influences on Robert Jones as he emerged into adulthood. Where his Uncle Hugh found all his joy in work, and was very outspoken, Aunt Elizabeth was happy in a supporting role. Both were sociable,

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[78] From Charles Macalister's unpublished memoir, *A Physician's Retrospect.*
[79] Ibid.
[80] It is possible that Robert's brother, John (Jack), also came to live with the Thomas family.

and welcomed the company of their nephew's student friends in the house, although Elizabeth did refuse to receive the social reformer, Annie Besant.[81] Together, they inspired Robert Jones' loyalty and affection. Between them, they demonstrated perseverance, fortitude, discretion, integrity, and charity. And their happy marriage served as a model for his own.

The 1891 and 1901 censuses record her as 'living on own means'. According to probate, Thomas left £11,148 10s. 2d., more than enough to keep her living comfortably. She and Thomas had employed servants when they lived at Nelson Street, and Elizabeth still had a cook and a housemaid in 1901.

Elizabeth Thomas died at her home in Toxteth Park, on October 29th 1913, having been a widow for over twenty-two years. She was seventy-two. Cause of death is given on the death certificate as 'ulceration of bowel' and 'exhaustion'. Susannah (Susie) Jones was with her when she died.

Susannah (Susie) Jones née Evans

Some time after their father's death, the oldest of Robert Jones' sisters, Eleanor (known as Nell), joined her brother in the Thomas household in Liverpool. Robert and Eleanor Jones, brother and sister, also became related as in-laws when they married sister and brother Susannah and James Evans.[82]

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[81] Besant collaborated with Thomas' close friend, the Northampton MP Charles Bradlaugh. Since Thomas was himself an atheist, it is unlikely to have been Besant's views on religion that led Elizabeth to take this, for her, unusual stand. It is possible she did not approve either of their views on birth control, or Besant's separation from her Anglican clergyman husband and subsequent loss of custody of her two children.

[82] The families became further tied in with each other when Robert and Susannah's son, Arthur, married Eleanor and James' daughter, Eileen, in 1919. See the Family Tree in the previous chapter, p.14.

Susannah (Susie)[83] Evans, one of the ten children born to William and Elizabeth Evans between 1840 and 1860, came from a close and affectionate family. Her father was a local merchant and property owner; her mother is listed in Gore's Directory as a flour and provisions dealer.

On January 21st 1882, when she was in her early twenties, Susie wrote a lively letter to cheer up her three American nephews, her eldest brother Isaac's children. The boys were suffering from scarlet fever. Susie aimed to entertain them with anecdotes from her teaching of 'a class of little girls in Sunday School'. She claims not to be superstitious, and yet when the harmonium in their house suddenly fell over she felt impelled to send a telegram to her brother and sister-in-law to reassure herself of the boys' recovery. The letter and telegram were sent on the same day as the youngest of the three boys, little Robbie, died. He was just five years old. Her father wrote, 'When Susie told me ay [sic] really thought ay should faint on the floor. There isen [sic] a dry face in our house'.

Jones' marriage to Susie appears to have been a happy one. They had a longer engagement than either wanted, due first to Robert's determination to make a success of his new private practice so he could support a wife, and then to the sudden death of Susie's father, William, in November 1886. A long letter from Susie, with the black border signifying mourning, makes it clear that Jones was one of the doctors who attended him in the increasingly frantic last week of his life: 'Bob saw him and wrote out a prescription…Bob made him promise to stay in…I thought we had better let Clampitt see him in case he got worse in the night it was so far to send for Bob'.

[83] She is even referred to as 'Susie' on Elizabeth Thomas' death certificate.

In an undated letter to his future sister-in-law, Justine (seated second from the left in the photograph below), Jones speaks of having known the Evans family when he 'was a pale young student' – so he must already have known them by the time this picture was taken (he would then have been 21).

The Evans family taken outside their home in Bootle in 1878.
Susie, Robert Jones' future wife, (then aged about 18) is in the middle of the back row between her brothers James and William. James, standing next to Susie and wearing a hat, married Robert Jones' sister, Eleanor (Nell). Both marriages – Robert Jones to Susannah Evans, James Evans to Eleanor Jones, took place in 1887. Robert and Susie married in March. James and Eleanor were their witnesses.
On his mother Justine's knee is Robbie, the little boy who died of scarlet fever.

Although it is not clear exactly how, when and where Robert Jones and Susannah Evans first met, later in the letter cited above Jones says he and Susannah have known mutual friends for a long time, and also that 'She was my nurse when her father was crippled', a reference to a time when William fell from his horse and carriage breaking a leg and suffering some other injuries.[84] The use of

[84] William Evans is said to have driven round in a carriage wearing a top hat to collect his rents.

'my' to describe her as a nurse is further evidence that Jones was the Evans family doctor.[85] He reassures Justine 'that your sister [in-law] will never regret having placed a trust I value more than all beside, in my safe keeping'.

In February 1886, the year before their marriage, a letter from Susie's brother, William Evans, speaks of her sudden illness of 'desperate gravity', and that Robert Jones 'has been almost beside himself with anxiety and grief. He has been here most of his time and slept here two or three nights'. She had suffered a haemorrhage – a serious problem in those pre-transfusion days. William's description of Jones' response to his fiancée's illness speaks of his devotion to her.

Bob and Susie finally married in March 1887, and in July the same year she wrote, 'We are as happy together as any two can be on earth – we often say we suit each other in every way'.

They began their family immediately. A daughter, Hilda, was born on December 12th that year. Susie wrote that the birth went smoothly, but towards the end of January she fell gravely ill: following a cold, and a temperature of 105 degrees, 'inflammation of the kidneys had set in and for some days my life was despaired of'.

She made a complete recovery, and went on to have their second child, a son, Arthur, in 1892.

It is possible to deduce some things about Susie from both the style and content of her writing. She uses a broad nib firmly, and writes long, sometimes very long, enthusiastic sentences. She uses ampersands, dashes, underlinings, and deeply scored exclamation marks. The calligraphy is flowery with many loops. The

[85] A letter from Justine Evans, dated March 30th 1883, confirms that Susie's older sister, Lizzie, had consulted Hugh Owen Thomas about a sprained foot, and that the young Doctor Jones was in attendance. A year earlier, a letter from Susie (still Evans) speaks of having friends to tea, including 'Mrs Doctor Thomas' [Elizabeth]. Susie may have nursed her father, but she had no formal training in this capacity.

pen hardly leaves the page. Despite her father's semi-illiteracy, as seen in his letter quoted previously (according to a family history he had very little formal education), her few errors seem to stem more from haste than lack of education. There is a record of her attending an academy for young ladies in Liverpool. And this is not the hand of a timid woman.

The letters reveal frugality, at least at the beginning of her married life. In the days preceding her wedding she talks of not wishing to waste money on new furniture, and Watson says:

> …when money was not too plentiful, she…made it possible for him to live "above his means" in order that he might never live beneath his work. She believed in the old-fashioned doctrine that a wife must never worry her husband with any domestic detail, never discourage him from arriving at unexpected hours with a party of friends, and never distract his mind with bankers' pass-books…She was called upon to be hostess to men and women from every land and of every social category. But, like Robert Jones, she was innocent of snobbery (228).

But Susie's American niece, Bess, visited during the summer of 1899, and she kept a diary that gives us a glimpse of life in the Robert Jones household, twelve years into their marriage:

> The next day we went down to Aunt Susie's. I must confess I rather dreaded going there for I knew it was awfully swell and was afraid very stiff but I got used to it and had a lovely time. They had a six course dinner every night and we always had to dress for it. Aunt Nellie says that Aunt Susie goes down to dinner in evening dress in winter. The house is lovely. The walls of the drawing room are just covered with lovely pictures. They have five horses and four carriages, a couch, a Victoria, a dog cart, and a pony cart and two coachmen. They are swells. I can tell you I went out three mornings with Uncle Robert on his rounds in the dog cart. He showed me how to drive and I used to drive all by myself through the business parts of Liverpool. He said I did splendidly. I like him so much. He's fine! Aunt Susie is just as sweet as she can be. She's done nothing but heap presents on me ever since I've been there. She gave me a beautiful long gold chain to wear with my watch.

Susie appears to have been Jones' support throughout his career. She kept the household running smoothly, enabling Robert to devote himself to his work, and made his home life comfortable. Bess's remarks about the household being 'awfully swell' infer that Susie played her part in keeping up all the appearances of middle class prosperity and status. The number of carriages they kept is a step up from Hugh and Elizabeth Thomas' phaeton, although the obvious ostentation of that mode of transport clearly set doctor apart from patient. Writing in 1893, W.J. Gordon suggested:

> The man with a consulting practice wants a different sort of horse to the humbler general practitioner. The consulting man must have a pair that go fast and well, and cover long distances, and draw up at the door in a style that will inspire the patient and the patient's friends with faith (121).

Watson credits both Susie Jones and Elizabeth Thomas with playing their 'part for the cripple' (229) by providing their husbands with solid background support. Jones was devastated by Susie's unexpected death in 1918, looked at in the chapter 'Arms'.

Agnes Hunt

In his professional life, one woman stands out, the remarkable Agnes Hunt, with whom Robert Jones shares the name of the famous orthopaedic hospital in Oswestry, Shropshire.

Robert Jones with Agnes Hunt in 1927

Agnes Hunt first met Robert Jones when she was advised to consult him for her disabling osteomyelitis in 1903.[86] She describes the meeting as 'the greatest day of my life' (Hunt 139). Her description of their first encounter gives a vivid word picture of Jones' clinic, in contrast to the many sombre waiting rooms Hunt had attended in London:

> At Nelson Street the door was opened by a cheery old person universally known as "Tom", dressed in the correct butler's get-up, but utterly unlike the solemn-faced funereal gentleman employed by the Harley Street fraternity. We were shown into an ordinary nicely-furnished room, with cheerful pictures on the walls. Several other people were sitting about in comfortable arm-chairs, chatting merrily. I marvelled at the atmosphere of hope that pervaded the whole place, but, when half an hour afterwards I saw Robert Jones, I marvelled no more, for you could not spend five minutes in his presence without feeling that all was well…I do not think that if Robert Jones had suggested the necessity of removing my head I should have made any real objection! Nelson Street was always packed with patients of all classes, and suffering from every kind of crippling disease, waiting, and very rarely waiting in vain, for his ministrations (139-40).

[86] Osteomyelitis is an infection of the bone or bone marrow. In children the long bones are most commonly affected, whereas in adults it more commonly attacks the vertebrae and pelvis. Nowadays it is treated with antibiotics. Then, it could be a lingering death sentence.

By the time of their first meeting, Agnes Hunt had already opened a small convalescent home in Shropshire (in 1900). Even though it was small, it was quite an undertaking. Financially precarious and housed in dilapidated buildings in an overgrown garden, with the water supplied 'from a fourteen-feet well under the scullery floor' (ibid. 125), the home was one of Hunt's mother's eccentric ideas. She thought that the well-established Salop Infirmary (where Hunt had done her nurse's training) could do with a place for children to convalesce, even though she had not consulted the Infirmary to see if they felt the need for such a place. This little home would eventually become the centre for orthopaedics that is now the Robert Jones Agnes Hunt Orthopaedic District Hospital, but:

> …on the 1st of October, 1900…no splendid vision prompted this open-air Hospital, no mighty philanthropic scheme cast its shadow over the humble beginning of the first open-air Orthopaedic Hospital of the world…simply an old and derelict farmhouse in a little old-world village opened its doors and became "The Baschurch Home".
>
> Who could have dreamed that in less than forty years that Home would become an orthopaedic hospital of over 300 beds, with a staff of after-care nurses, and orthopaedic clinics stretching over eight counties, and a training college for cripples with the nucleus of a village settlement? Certainly not the committee, nor the slightly mad and certainly erratic superintendents, for at that time they had not come under the influence of that great man, Robert Jones (Hunt 127-28).

Although Agnes Hunt established Baschurch, she attributed its growth and success to Jones. His influence is undeniable, but she is too modest about her own energy and influence. Without her, there would have been no such institution.

Jones' first visit to Baschurch was in 1903, to see Agnes Hunt as his patient, but while there he was given a guided tour and met the twenty-five children who were recuperating from either illness or surgery in 'three rather rough open-air sheds' (143). He offered to see any of the cases as out-patients at the Royal

Southern in Liverpool, and for a time Hunt regularly made the difficult journey by train and ferry to the city with her small patients – 'a motley crew of children, some on crutches, some in chairs' (144) and some simply carried by Hunt and whoever she could find to help her. Once:

> Whilst taking a party of twelve children of all ages and all stages of crippledom across the ferry I was accosted by a lady, who in a voice of horror demanded if I were "responsible for all those children". I blushed to my ears and bashfully replied that I was, whereupon the lady sternly pressed a tract into my hands and left. The title of the tract was: "The Wages of Sin is Death" (ibid.).

Early in 1904 Jones accepted her invitation to join the staff of the Home, and began the visits that he would continue until the outbreak of the Great War.

Conditions at Baschurch in those early days were extremely primitive. Agnes Hunt gives an account of Jones' first operating day:

> …there was no operating theatre, and it was some years since we had done our hospital training. However, we had both been carefully trained in antiseptic methods, and asepsis was impossible as we had no sterilizer. So we took out the furniture of the dining-room, took down the pictures from the walls, curtains from the windows, and scrubbed and carbolized everything. We collected all the face towels we could find and boiled them in a fish-kettle for twenty minutes the night before. Another fish-kettle was got ready for the instruments. Tables and bowls of all sizes were commandeered from the village and the latter boiled in various large utensils. No one got much to eat, which was perhaps as well, as there was nowhere to eat it. Mother had just installed acetylene gas, which it was hoped would give a good light.
>
> The eventful day arrived, and all went well until the gas had to be lighted. It gave a splendid light for quite three minutes, then, at the most important part of the operation, it went out. My colleague, Goody, lit a candle, I fled to the kitchen to hurry up the cold collation and to meditate on the cussedness of things in general and acetylene gas in particular. So ended, by the light of two candles, the first operation day at the Baschurch Home (148-9).

For the next ten years, Jones visited Baschurch once a month to perform operations. Conditions did improve slowly, and in 1907 'the huge sum of £249 [was]

raised with which to build the theatre, surgeons' dressing room, sterilizing room, and large annex which was to be used as a post-operating room and at other times as a playroom for the patients' (156).

In September 1925, Jones wrote to a colleague concerning the celebration of the silver anniversary of Baschurch's foundation, 'and the work of our old friend, Miss Hunt'. Arrangements have been made for a dinner,

> …at which it is hoped that in particular all those who have been associated with her will consider it their privilege to be present. I know you will regard this as a sacred obligation. Now there is another aspect of the occasion which seems to me equally important. Those of us who have been in close association with Miss Hunt in her work realise how much it has meant to her in loss of strength and means. She regrets neither, but it would not be friendly in us to be oblivious as well. The occasion would allow all those who know her personally as we do, and those who admire her work to venture upon a presentation in the form of a cheque invested beyond her charitable instincts. It would relieve us all of a feeling of anxiety in the future when another occasion may not arise.

The hospital was dependent, as all were at this time, on charitable donations. The polite but firm pressure to contribute shows how Jones differed from his uncle. Using the inclusive pronouns 'us' and 'we' is a deliberate persuasive technique, and shows his preference for collaboration over Thomas' autocracy, but it leaves no doubt about how the letter's recipient should behave.

The hospital changed its name to what is still the Robert Jones Agnes Hunt Memorial Hospital as a mark of esteem just after Jones' death in 1933. The hospital's official history is called *Healing and Hope* – a phrase Hunt used to describe Jones' work. In the RJAH Hospital library there is a copy of Jones' seminal text on the treatment of orthopaedic injuries. It was a personal gift. On the flyleaf is a handwritten inscription, which reads: 'To Sister Hunt, from her friend and pupil, Robert Jones'. This is a biography of Jones, not Hunt. Her extraordinary life

deserves its own telling, but that little inscription shows Jones' view of her. Their admiration and respect were mutual.

Although the influence of these women can't be precisely quantified, it would have been impossible for Robert Jones to reach the professional level he did without substantial support and encouragement, first from his mother, then from his mother-figure aunt, and for thirty-one years from his wife.

So far, we have looked mainly at some of the people and places that influenced Robert Jones on his path to becoming a surgeon, but his contributions can be better assessed by focusing attention on one of the key moments in his life, the building of the Manchester Ship Canal.

BLOOD

The canals and the bridges, the embankments and cuts,

They blasted and dug with their sweat and their guts

They never drank water but whiskey by pints

And the shanty towns rang with their songs and their fights.

Navigator, navigator rise up and be strong

The morning is here and there's work to be done.

Take your pick and your shovel and the bold dynamite

For to shift a few tons of this earthly delight

Yes to shift a few tons of this earthly delight.

From 'Navigator' written by Phil Gaston for The Pogues on *Rum Sodomy and the Lash*

The lifeblood of any city is its transport links. From the 1840s, the railway network began proliferating, branching all over the map of Britain like capillaries. But prior to this, Britain had constructed a network of canals to transport goods cheaply and efficiently. These were the arteries between manufacturing centres and the ports from where goods could be sent overseas.

In the first fifty years of the nineteenth century the population in the Manchester region rose from an estimated 322,000 to over a million.[87] Manchester is a landlocked city, but it was at the heart of Britain's Industrial Revolution and its cotton exports bankrolled the British Empire.[88] The city rapidly developed as a world leader in the technology, engineering and manufacture of machinery necessary for textile production. Raw and spun cotton had to be transported by road and rail to and from Liverpool docks. Mancunian businessmen perceived Liverpool port authorities as having them in a stranglehold, and posed strong objections to the effects harbour dues had on their profits. Oldham merchants said it was cheaper to send goods a hundred miles to Hull than the thirty-five miles to Liverpool where levies were so exorbitant.

By the 1880s Manchester was suffering from a recession. This was partly due to the blockade of Southern ports by the North during the American Civil War, which had had a serious impact on the export of raw cotton. On January 1st 1882, a leading local industrialist, Daniel Adamson, called a meeting at his home in Didsbury, forming a committee was formed to get parliamentary permission for the

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[87] Figures from www.manchester2002-uk.com

[88] Cotton's uses range from fabric through bookbinding to gunpowder. At this time, it was also used to make candle wicks, fishing nets, fire hoses, tarpaulins and medical supplies. Dr Joseph Sampson Gamgee, surgeon at Birmingham's Queen's Hospital, invented an absorbent cotton wool and gauze dressing known as Gamgee tissue in 1880. He gave his name indirectly to Samwise Gamgee, a character in Tolkein's *Lord of the Rings*. In one of his letters, Tolkein, who was raised in Birmingham, said it was a name from childhood memory.

construction of a new canal linking Manchester with Liverpool.[89] The proposals were bitterly contested by both the railway companies and the city of Liverpool, but despite their objections the bill was finally approved, after three attempts. Work on the canal began in November 1887 with the cutting of the first turf at Eastham, Merseyside.[90]

A great deal has been written about this, the crown of canals, and the biggest civil engineering project undertaken in Britain to that date. The canal (known locally as 'The Big Ditch') was to be dug deep enough to allow for the passage of ocean-going vessels. Unlike the previously narrow canals, this one was cut so deep that even in 1939 there were only six ships in the world too big to use it. It also had to be wide enough for ships to pass each other unlike the Suez Canal, which has passing spaces at the Great Bitter Lake and El Qantara.[91] Five sets of locks[92] had to be installed to raise the canal level sixty feet over its thirty-five and a half miles, and the extraordinary construction of the Barton Swing Aqueduct, four miles west of Manchester, meant that a section of the pre-existing Bridgewater Canal[93] can still be swung to one side allowing vessels to pass along the Ship Canal below. More than seventy million bricks were manufactured for its lining. At its height, the workforce consisted of over sixteen thousand[94] men and boys, known as 'navvies' – an

[89] This was not the first attempt to get a canal built. In 1825, when Manchester had 104 cotton-spinning mills, a Bill was introduced for the construction of a ship canal from Manchester to the mouth of the River Dee. The cost was estimated at £1 million to be raised in £100 shares. The Bill was defeated.
[90] The last cutting was completed November 11th 1893. Two weeks later the canal was in water from end to end, and the company directors made the first passage on December 7th. The eventual cost was £15 million.
[91] Suez Canal traffic is normally limited to three convoys a day, two southbound and one northbound.
[92] The lock gates were huge – each one was 80 feet high and weighed 250 tons. Leonardo da Vinci is credited with the V design of lock gates, which are held closed by the force of water pushing against them.
[93] The 28-mile Bridgewater Canal was opened in 1763 to enable the Duke of Bridgewater to transport coal from his mines into the heart of Manchester, where industrialisation ensured an insatiable appetite for coal. Stretches of this canal run underground, which alleviated the mine's flooding problem. In places the water is still coloured bright orange from iron oxide.
[94] Numbers given vary – some estimates are as high as 20,000 men. The number given here is the general consensus.

abbreviation from the word navigator. Canals were called 'inland navigations' and navvy[95] was a jocular way of referring to the men who dug them.[96]

Much less has been written about the medical care needed for such a large workforce and their families.

In the 1890s it was still customary for all patients of whatever class to be seen in their own homes. Workhouse infirmaries existed for the treatment of the destitute, but on the whole, medical care for the working class was totally inadequate. Minutes of a medical discussion on April 15th 1889, at which Robert Jones was present, show that the poor 'could obtain medical attendance in four ways': first by going to the sixpenny doctor; second by joining clubs which contracted to give them medical aid; third from the hospital and dispensary system; and fourth from state aid – which usually meant the dreaded last resort of the workhouse.

If medical provision for existing conditions was lacking, emergency care was non-existent. Anecdotally, Robert Jones has been credited with "inventing" accident and emergency services. Although this is a sweeping claim, his work in the 1890s did revolutionise trauma care, so although he did not exactly invent it, he did make a major contribution to its development. He accomplished this as Surgeon Superintendent for the Manchester Ship Canal.

Initially, miles of railway track[97] had to be laid in order to move materials and excavated earth, and this track was also crucial to the way Robert Jones organised and implemented medical provision for the labourers and their families.

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[95] The word navvy, spelt thus, was first used in print in the 1830s (Sullivan 24).

[96] Alternative names for navvies included diggers, cutters, banksmen, excavators, thick legs, blue stockings, and bill boys.

[97] There was over 250 miles of track laid. The railway had 180 steam locomotives and 6000 wagons. Other equipment included 100 steam excavators, 7 earth dredgers and 124 steam cranes. 3 gigantic excavators – known as 'Germans' - weighing 70 tonnes apiece, were imported for the work. Steam excavators were known as steam navvies – at least by the navvies themselves.

This photograph (from the Mike Dilger collection) shows men and loaded wagons on the canal bed. The location appears to be at one of the junctions with the River Mersey.

Little has been written about medical provision for the navvies, but it's clear that Jones faced several major problems. The scale of the task was enormous, the time it took to treat emergencies was an issue, and the nature of the injuries was challenging. Eventually, he established 'a chain of dressing-stations and three well-equipped hospitals along the line of the future waterway' (*The Observer*, 25/03/34). Watson gives more details:

> …the canal was divided into a number of independent sections, each with a hospital and an external medical service. The final arrangement included three central hospitals: one at Eastham, near Birkenhead, one at Latchfield[98], near Warrington, and one at Barton, near Manchester, the external medical service remaining for each section (63-4).

There was a need for a discrete canal medical service. These new hospitals were built:

> …partly because the voluntary hospitals at either end of the Canal were too far removed from most of the construction sites to be effectively utilized. Even had the voluntary hospitals in Manchester and Liverpool been able to cope with the accident cases from

[98] Watson says Latchfield, but other records, including Jones' surgical case book, confirm the place as Latchford – a mile south of Warrington and boundaried by the River Mersey to the north and the Manchester Ship Canal to the south. These sites were three out of the four places where locks and sluices were built. They are roughly equidistant from each other.

> such a large working population, it is unlikely that they would have wanted to. Their resources were already stretched, and many of them were reluctant to treat gangs of transient workers. Bitter memories still lingered of costly experiences with navvies injured during the earlier booms of railway construction (Cooter 101).

Jones 'designed and placed the hospitals, and selected the staff … each [hospital] being officered by a matron, house-surgeon, and two nurses.' (W 63-4). If the accident was a serious one, Jones was summoned by telegraph and caught the train down from Liverpool. His telegraph name was 'Valgus': a valgus being a deformity, an abnormal displacement of a part of the limb away from the midline of the body – knock-knees for example. It is not recorded why Jones chose this as his contact name, but an emergency would displace him from his normal place of work.

There are various stories to account for how Robert Jones, still only thirty years old when work on the canal began, was appointed to this responsible and prestigious post. One version of events says that in 1884 Robert Jones was on holiday in Norway and attended an accident there. Also on holiday, and staying in the same hotel, was Mrs Garnett, head of The Navvy Mission.[99] Through her work with the Navvy Mission, she had developed a working relationship with Thomas Walker, the experienced civil engineer who was the main project contractor on the Ship Canal until his death in 1889. Watson claims that Mrs Garnett was so impressed by what she saw of Jones' work in Norway that when medical provision for the canal was being discussed, she proposed Jones as the ideal candidate.

An alternative explanation for his appointment is that Jones treated an employee of one of the main contractors in a Liverpool hospital, and it was this patient who passed on his personal recommendation to his employers. Jones'

[99] Daughter of an impoverished Anglican clergyman, and married briefly (her husband died on their honeymoon), Elizabeth Garnett was 'a small, strong-jawed, strong-willed woman … a natural-born organiser, unasked, of other people's lives' (Sullivan 203). She called herself a navvy and remained utterly devoted to them all her life.

assistant, Tom McMurray[100] states in his unpublished memorial to Jones, *De Mortuis,* that while working at The Stanley Hospital,

> …there came under his care many employees of one of the largest local contractors who subsequently undertook the building of the Manchester Ship Canal. With the formation of this huge enterprise it was necessary to form three hospitals solely for the care of the men injured in the work, and Jones was asked to take charge of the hospital at the Liverpool end. His work was so successful that in a very short time he was asked to take complete charge of the other hospitals in addition.

By the time the canal came to be built, Jones already had a considerable amount of experience treating sick and injured labourers on the Liverpool docks. A letter of application for a post at Liverpool's Royal Southern Hospital in 1882 is in the Sir Robert Jones archive at the Liverpool Medical Institution. The secretaries of nine associations endorse his suitability for the position:

> We, the Officers of the following Associations, on behalf of our members, venture to bring before your notice the services which Mr Robert Jones has rendered to us, as Surgeon to our Societies. We have tested his skill and abilities in the strongest possible manner, and have invariably found him most efficient, whilst his untiring industry on our behalf warrants us in hoping that you will elect him to fill the vacant post of Honorary Surgeon to the Royal Southern Hospital, which his training and practice pre-eminently fit him for.

Among the signatories are secretaries to the Riggers and Mariners, Dock Gatemen, and Boiler Makers and Iron Shipbuilders Associations.

Watson suggests that 'only a surgeon with a wide experience of accidents amongst manual workers could organise such an undertaking' (62) as the Ship

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[100] Thomas Porter McMurray (1888 – 1949) was running the clinic at 11 Nelson St when it was bombed on May 3rd 1941. 'Usually Robert Jones' assistants remained with him only a year…but McMurray remained for twenty years' (McFarland 4). He had 'a surgically beautiful pair of hands' (*BMJ* Nov. 26 1949; 1237) and was uncompromisingly loyal to Jones and his principles. His second wife was Jones' private secretary, Freda Evershed. He was appointed lecturer in orthopaedic surgery at the University of Liverpool in 1924, and died very suddenly on a railway station in 1949.

Canal. However, in view of the history of bad blood between the two cities, it is odd that a Liverpool man[101] should have been appointed to such an important position by a Manchester company. It does make sense that a doctor with extensive experience of treating industrial injuries, and local to at least one end of the canal should be given the responsibility of medical supervision. And perhaps, in light of the appalling reputation navvies had, the young Liverpool doctor was appointed simply because he was the only man they could find who would accept the post.

It is difficult to say for sure which came first – did Jones apply for the position, or was it offered to him? Both the questions and their possible answers shed light on the kind of man Jones might have been. An ambitious, self-server might have pursued the position. Responsibility for supervision of medical care on such a scale would undoubtedly have advanced his career. Also, the position offered substantial financial benefits. Jones had married and become a father in 1887, so was no longer simply trying to support himself. In March 1888, Susie Jones wrote in a letter, 'Bob has recently been appointed Consulting Surgeon to the Manchester Ship Canal, it means an immense amount of phisical [sic] labour travelling to and fro'.

Money does not seem to have been a motive, however, even though at this time he was not financially very comfortable – the bank had turned down an application for an overdraft, and he was in debt to his uncle Hugh Owen Thomas who had helped him set up his practice round the corner from Nelson Street in Great George Square. The Manchester Ship Canal Company initially offered Jones £3000 per annum, but he turned this down, instead accepting an honorarium that paid a

[101] Despite his worldwide fame and the opportunities this presented, Robert Jones remained a resident of Liverpool for his entire working life.

third of that amount.[102] He did this in order to maintain his existing responsibilities as surgeon at the Stanley Hospital as well as his work in both his own and Hugh Owen Thomas' clinics. It is possible that with Hilda just born, and Susie's grave illness following so soon after, Jones decided to stay close to home, but far from giving up work in order to undertake his canal duties, he continued to take on further work in Liverpool. In 1889 he was appointed Honorary Surgeon and Dean of Clinical Studies to the Royal Southern Hospital.

The final organisation of medical provision on the Canal was this: Jones stayed in Liverpool but was on call for serious cases. Each of the three hospitals had a resident surgeon (who had previously worked with Jones), and the existing local physicians were part of the network of care. Even in this capacity, during the five years it took to construct the canal, Jones himself appears to have dealt with over three thousand accidents. Watson quotes from Dr. Eugene Byrne who worked with him at the time:

> I remember one case in November, 1888, on a cold wet dark evening, when on my wire he came to a lodging house in Wash Lane, Latchford, to a man *in articulo mortis*[103] from epileptic fits caused by an old-standing depressed fracture of the skull over the Rolandic area[104]. Sir Robert[105] at once trephined[106]. No anaesthetic was required. I merely held the lamp and when the operation was finished wrapped up the patient, put him on a wheeled ambulance stretcher and with the assistance of some pals trundled him off to Hospital (65).

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[102] To put his salary in context, Hugh Owen Thomas' records show that his income averaged around £3000 per annum. However, a navvy was paid fourpence halfpenny (less than 2p) an hour, averaging £50 per annum for a sixty hour week.

[103] Meaning on the point of death – the moment when last rites might be administered.

[104] A fissure in the brains of vertebrates that separates the parietal lobe from the frontal lobe – the motor cortex from the sensory cortex - described by the Italian anatomist Luigi Rolando (1773-1831).

[105] At the time, he was plain Dr. Jones. He received his knighthood in 1917. Byrne is recalling the event retrospectively of course. In his researches, Watson wrote to many of those who had worked with Jones. Some of that correspondence survives.

[106] A trephine is a crown saw designed to remove a disk of bone, chiefly from the skull. Trephining (or trepanning) is perhaps the oldest surgical procedure for which there is evidence – some trephined skulls dating from 6500BC were found in France. The healing of the bone shows the patients survived. Both Hippocrates and Galen gave directions on the procedure.

An early trephining. Note both the surgeon's delicacy, and his minimal protective clothing.

Jones' early version of an accident and emergency service recognising both the problems of scale and the need to provide coordinated medical and surgical services, was not the first of its kind. The first successful trauma resuscitation unit in England was The Humane Society. Originally titled The Institute for Affording Immediate Relief for Persons Apparently Dead From Drowning, it was founded in the Chapter Coffee House, St Paul's Churchyard, London, in 1774, by two doctors, William Hawes[107] and Thomas Cogan.[108] Hawes was fascinated by the causes for and treatment of asphyxia, and it was his idea to place 'attendants at intervals along the banks of the river Thames and [pay] them 2 guineas to attempt resuscitation to anyone who had drowned (provided their attempts lasted longer than 2 hours!) Prior to this it was generally felt that the best thing you could do to a drowned man was to

[107] Hawes was vehemently against quackery. In 1780 he wrote: 'I have made Quacks of all denominations my enemies: but what Medical Men of honour and reputation, would wish to be upon tolerable terms with the Murderers of the Human Race.' (*Oxford DNB*) Presumably his enemies included bonesetters like Sally Mapp and Joshua Ward (see 'Vertebrae' chapter).

[108] A group for rescuing and resuscitating the drowned was founded in Amsterdam in 1767. Cogan had seen this at work during his years practising medicine in Holland.

pick his pockets.'[109] Originally Hawes paid these attendants himself. It was at the suggestion of his friend, Thomas Cogan that they set up a charity to deal with the problem and spread the cost. This provided the foundation of the Humane Society.

There is a record of a society member:

…called to attend a 3-year-old child named Catherine Sophie Greenhill, who had fallen from an upper story window onto flagstones in nearby Pudding Lane[110], and been pronounced dead. The society member, an apothecary named Squires, was on the scene within 20 minutes, and history records that he proceeded to give the clinically dead child several shocks through the chest with a portable electrostatic generator. This treatment caused her to regain pulse and respiration, and she eventually (after a time in coma) recovered fully.[111]

[109] www.trauma.org
[110] This appears to be the same Pudding Lane where the Great Fire of London started in 1666.
[111] www.trauma.org

This early foray into emergency medicine is interesting because of the model it gives.[112] The placing of men at intervals along the riverbank is exactly what Robert Jones did with his hospitals.

Nowadays, in trauma medicine, both in the UK and the US, there is a great deal of emphasis placed on the so-called 'golden hour'. It is widely believed that a victim's survival chances are greatest if s/he receives definitive care in the operating room within sixty minutes of becoming injured. The concept of a golden hour may have derived from French military data from the Great War, but recent peer reviewed literature suggests there is a lack of scientific basis for such an idea (although treatment for stroke and cardiac arrest are time critical). There is, however, agreement that an organised, regionalised system of emergency medical care in which trauma patients can be evaluated and stabilised is crucial. And as early as 1888, Robert Jones organised patient care into three regions, each covering roughly ten miles, so no injured worker would have to travel far to get treatment.

The three canal hospitals treated both medical and surgical cases. Latchford, 'a wooden cottage hospital…had taken only fourteen days to erect. The external or visiting doctors sometimes made use of the hospitals for severe cases among the Canal workers, such as pneumonia, rheumatic fever, and what we called at the time Russian influenza' (Watson 64).[113]

The Canal's medical records are scant at best. Sir Bosdin Leech's 1907 official history of the 'Big Ditch' makes passing reference to what caused some of the accidents, but makes no actual mention of Jones' contribution to patient

[112] And being a Liverpool man, Jones would probably have been familiar with the stories of Thomas Houlston's work establishing a resuscitation hospital near the Old Dock, where a significant number of dockers and seafarers were revived after falling into the city's dock network. Houlston was Senior Physician to the Liverpool Royal Infirmary.

[113] A pandemic towards the end of the C19th, Russian flu claimed at least as many lives as the Spanish flu outbreak at the end of the Great War. For a full account of the extraordinary effects of this illness, read Smith F.B. 'The Russian Influenza in the United Kingdom, 1889-1894', available on www.oxfordjournals.org

treatment and after care. In his 1960 Robert Jones Lecture, H.J. Seddon outlines his difficulties in rewriting 'this part of the Robert Jones story from contemporary records…for two reasons' (425): first that there is so little in journals of the time – medical or otherwise, and worse, that the relevant records of the Manchester Ship Canal Company 'have, alas, been destroyed' (426). Second, 'Robert Jones himself did not seem to have regarded his work on the Canal as out of the ordinary' (ibid.). A series of articles about his work apparently proposed by Jones for the *Provincial Medical Journal* never materialised, and in a letter of application for a surgeon's post at Liverpool's Royal Southern Hospital in 1889, Jones appears almost casual about this work:

> For eight years I have been Surgeon to the Stanley Hospital, where I have acquired extensive and varied experience, which has been still further amplified by my appointment as Consulting Surgeon to the Manchester Ship Canal, involving as it does the supervision of three hospitals, each containing twenty beds.[114]

Seddon admits his debt to Watson's biography of Jones, suggesting that without the inclusion of a chapter on the Manchester Ship Canal, Jones' contribution would have gone largely unnoted. It is certainly true that very few of Jones' obituaries[115] mention this stage in his career.

However Jones' surgical casebook from Latchford has survived. It is a huge, leather-bound volume of nearly six hundred pages. The procedures undertaken are alphabetically organised and range from achondroplasia (dwarfism) to wry neck (a contraction of the neck muscles).

It is a quiet demonstration of Jones' phenomenal work rate. There are a hundred and seventy eight headings – and that number does not differentiate

[114] The letter is quoted in its brief entirety in the text of Seddon's lecture (426).
[115] Two obituary books exist. One is in the SRJ archive at the Liverpool Medical Institution. The other was compiled by his niece, Nesta Simpson (daughter of Jones' sister, Nell), and is cherished within the family.

between each bone fractured (forty two separate listings), or each joint affected by either tuberculosis or arthritis. According to this record, Jones undertook five hundred and fifteen operations just for flat feet.[116] He treated cases of Spina Bifida in infants (a Baby Hardacre) and adults (a Mrs Dickinson), sixty-two patients (including twelve babies) with clubfoot, and a woman named Mrs Gunn for a condition known as Trigger Finger.[117] There was evidently a convent nearby as the record shows that Sister Alfonsus Gerard had an operation on one of her knees, and a Miss May Ball was operated on for a hip problem.

Leafing through the five hundred and sixty foolscap pages it is striking that this casebook records his work in only one of the three hospitals built along the canal, one that was only open for about six years. In a letter to Harry Platt[118] in 1933, J.T.Walker, a house surgeon who worked at Latchford confirms the hospital 'was closed on the completion of the canal' in 1894. Thousands of patients' names are neatly listed under the conditions for which Jones treated them. This suggests an astonishing work rate. Add the names in this casebook to what might have been recorded similarly for the other two hospitals on the Canal, factor in the surviving operating lists from the Royal Southern Hospital (see appendix), and then consider that he held surgical positions at the Stanley, Alder Hey and Heswall (all in Liverpool), and this does not take into account his work with Agnes Hunt at

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[116] Although in most children and adults flat feet are painless and cause no problems, it is worth mentioning that possible causes of flat feet are: bone fracture or dislocation, torn or stretched tendons, arthritis, or neurological weakness. On October 11 1895 Jones presented a Note on Metatarsalgia and its Treatment, stating that this condition occurs in 'fat overgrown people and also in tall delicate girls…patients are generally flat footed…anatomical explanation is that it is due to Neuralgia of the External Plantar Nerve from pressure'. He suggests treatment can be 'palliative and operative', in the latter, 'removal of the head of the metatarsal bone'.

[117] Trigger Finger (or thumb) is a condition when the finger sticks in a bent position because the tunnel through which the tendon controlling its movement has tightened. Surgery, usually through the palm of the hand, opens the tunnel to free the tendon.

[118] Sir Harry Platt 1886 - 1986. As a child Platt suffered from osteomylitis of the knee. He was first a patient and then a pupil of Robert Jones, and became a highly respected and influential orthopaedic surgeon. He always claimed Jones was his inspiration, and at the time of Jones' death was collaborating with him on a new edition of *Orthopaedic Surgery of Injuries.*

Baschurch or his free clinics on Sundays at Nelson Street. It adds up to a staggering number of patients and procedures.

Even though occupations are not listed in the casebook, names suggest some of the patients treated were members of the nobility (the Earl of Bective and the Countess of Derby), and others were medical practitioners (Dr Lehane and Nurse Deegan), but the vast majority are likely to have been navvies and their families. It is difficult to identify them from their names as navvies were almost always referred to by nicknames. An 1891 story in *The Times* suggests, 'booked names…would probably have afforded the means of merely local recognition, as most of the names entered are either nicknames or fictitious.' Nicknames were often taken from a navvy's place of origin, physical attributes, or some aspect of his behaviour – Red Neck, Moleskin, Old Blackbird, Nottingham Rags, Shakey Joe, and, nickname upon nickname, Old Black Tommy alias Linky Loo. 'Wingy' was a one-armed canal worker, 'Chump' or 'Peg' had one leg, and 'Gunner' had one eye.

As those latter nicknames indicate, a navvy's life was hazardous – 'the most dangerous job of its day: worse than coal-mining, worse – according to some – than war … actuarists worked on the assumption that every million pound's worth of contract would kill a hundred men…"There was…a death for every mile of finished track"' (35).[119] Slurry and machinery fell on the workers. They could fall. Machinery killed them: 'A stone-crusher broke Egypt Slen's[120] back on the Ship Canal … Hair-oil Pindar was run over and killed at Bob's Bridge' (ibid. 35). There were other problems too. Flooding, especially in the winter of 1891 when in some places equipment was submerged in forty feet of water, destabilised the earthworks and led

[119] Mrs Garnett, Editor of The Navvy Mission Newsletter, quoted by Dick Sullivan in *Navvyman.* The book's entire text can be found on www.victorianweb.org

[120] A common navvy nickname derived from an abbreviation of slender. Another common navvy nickname was 'Scan' from scandalous.

to landslides, and death by drowning in water and mud. Men were burned and scalded and injured in blasting accidents.

There was a particularly devastating incident late one night involving the railway. On Saturday July 18th 1891, at about one o'clock in the morning, a locomotive pulling twenty-four wagons full of soil and rocks fell sixty feet down an embankment into the cutting below which was full of the night-shift workers, 'as thick as bees' (*The Times* 20/07/1891), eating their supper. 'The train hit the buffers and dropped over the edge of the cutting (past a navvy called Sloppy clinging to the canal wall), hissing, steaming, scalding, hot ash and coal spilling from its fire box' (Sullivan 37). *The Times* of Monday July 20th takes up the story:

> The drivers and firemen … escaped destruction by taking a flying leap from their engines, but sustained injuries consisting of cuts and broken limbs. The scene in the cutting, as the rescuers got to work, was horrible. As the wrecked engines and shattered trucks were tediously removed the corpses were discovered, one by one, so horribly mutilated in many cases as to defy recognition, while one man's body was actually severed at the waist. Altogether ten men were recovered dead, and six others, suffering from injuries, have been removed to the Ship Canal Hospital.

The Hospital mentioned is likely to have been the one Robert Jones supervised at Eastham[121] (see map in appendix) – at any rate that was nearest to the site of the accident. The six Protestant dead[122] were buried by the Navvy Mission 'in a common grave ['hewn out of…red sandstone' *The Times* 22/07/1891] in the churchyard at Ince, a village on a mound in the marshes overlooking the green saltings and yellow sandbars of the Mersey all as flat as the river' (Sullivan 38).

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[121] Thomas Walker seems to have set up this first hospital at Eastham – the Liverpool end of the canal. Robert Jones supervised this hospital first – so successfully that Walker employed him to supervise all medical and surgical care.

[122] '…the remaining four bodies having been removed by friends and relatives for burial elsewhere' (*The Times*, Wednesday July 22, 1891).

Terrible as the accidental deaths and injuries were, statistically they were less significant than those caused by disease, which accounted for sixty per cent of the mortality suffered. Pneumonia killed 'a tenth of everybody on public works on its own' (Sullivan 37). Tuberculosis, bronchitis, small pox, cholera, scarlet fever, diphtheria[123], typhoid, and whooping cough were also killers. 'Fighting Sammy died of a supposed heart attack on the Ship Canal, 1888 … Hoping Dick broke an ankle that wouldn't set … and died in agony, 1889 … Peg Leg had an unhealing ulcer on his stump, Ship Canal, 1890' (ibid.). And during periods when frost meant the navvies could not work, and were therefore not paid, the men and their families starved.

Prodigious workers, navvies were also prodigious in their play, and alcohol was the cause of a number of accidents. Sullivan quotes an Armenian trainee engineer, Hekekyan Bey: 'These dissolute men exert themselves so violently in their work … that I have seen many powerful, muscular men with their blood oozing out of their eyes and nostrils … but their desire to run to the public houses and get drunk is so great that many of them perform their day's work in a few hours.' (56-7). Sullivan also quotes a navvy who sums it up neatly: he thought it 'the duty and the custom of every navvy to work for his money like a horse and spend it like an ass.' (31)

> Crowbar Nobby … used to say if he had no beer his mouth was no good to him and he used to sew it up. He'd ask the landlady for needle and thread and sew his mouth up. It was an easy thing to do to put the needle through once the holes were there – same as earrings. Daft, silly sort of bloke. He had whiskers and all (Sullivan 82).

[123] Despite a vaccine for diphtheria being announced by Dr Roux in Paris in November 1894, Robert Jones lost a granddaughter, Judy Watson, to the disease.

A navvy's life was hard. Travelling from job to job, they were always on the edge of society, loathed and feared. Even clergymen shunned them. They were sub-working class – 'many people thought they had tails, like monkeys'.[124] Physically strong, they were intimidating men with a reputation for being 'wild, heathen, riotous, brawling and drunken'.[125] They had their own dress, their own customs, and their own way of doing things. They were itinerant, and work, when they got it, was in isolated places and immensely hard. Boys born into navvy families would start work at seven years old:

> …carrying blunted picks as big as themselves to the blacksmith's forge for resharpening,,,ten and eleven year olds worked as fats or fat-boys – slithering about in mud under the wagons, greasing axles and wheel hubs. ('Fat' from the fat or grease they smeared on the wagons. A fat-boy was normally as lean as a long dog.)

Boys became full navvies when they were about eighteen years of age. It was normal for a canal cutter's work to involve digging '12 cubic yards of easy earth a day – 18 tons, or perhaps the space taken up by a large single-decker bus' (Sullivan 55). There was little care laid on for them. The Navvy Mission brought them soup, God, and a quarterly newsletter[126] which gave them information about where the work was to be found; a sort of gossip column – who had run off with whom, who had sloped off owing money etc.; a list of the dead and injured; and sometimes handy hints such as how to stop bleeding. But according to Sullivan:

> …the only place on public works to run a proper accident service seems to have been the Ship Canal, where First Aid Stations the length of the cut fed casualties into base hospitals at Latchford, Ellesmere Port, and Barton: grim, two-floored places full of pain and starchy nurses in caps like cocks' combs. Casualties had priority on the overland railway and a telegram day or night brought the doctor, a Welshman called Robert Jones... (38)

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[124] Quoted from an email from Dick Sullivan to the author, 19/09/07.
[125] Ibid – 23/09/07. He further explodes the misconception that navvies were largely Irish.
[126] In the early years of the C20th print runs of 100,000 were normal.

Principally responsible for the navvy's care was the Canal's main contractor, Thomas Walker. Having worked closely with them on his earlier project – the construction of the Severn Tunnel[127] – he now built temporary villages for the navvies and their families. On other projects, the men had to find billets with local people (they were rarely welcome) or build temporary shelters or 'shants'. He was also careful to find employment for those injured in their work. Men who had undergone amputations as a result of the injuries they sustained were known as 'Walker's Fragments'. In keeping with the navvies' habit of nicknaming, the maimed were given names such as 'Hoppity Rabbit' and 'Dai Half'.

> Walker's 'Fragments' were famous on public works for their ferocious loyalty to him. Once a geologist carrying Walker's written permission tried to climb into the Eastham lock on the Ship Canal to look at the boulder clay. He was stopped by a Walker Fragment: a man, the canal's historian tells us, with one foot in the grave, the other made of wood. The geologist tried to out-run him. The Fragment whistled down the cutting. A one-armed, but two-legged, Fragment popped out. Between them the Fragments had three arms and three legs. The geologist – out-armed and out-legged – went home (Sullivan 42).

[127] Walker had two hospitals built for the care of navvies on this project. Sullivan says, 'rare perhaps unique as a contractor willing to impose some comfort on his navvies, [he] built one of the few navvy settlements which is still lived in – Sudbrook, at the Gwent end of the Severn Tunnel' (78).

From piecing together the scant remaining evidence, it seems likely that the medical service provided for the navvies and their families for the duration of the building of the 'Big Ditch' may have been a result of the combined vision and practicality of both Thomas Walker and Robert Jones.

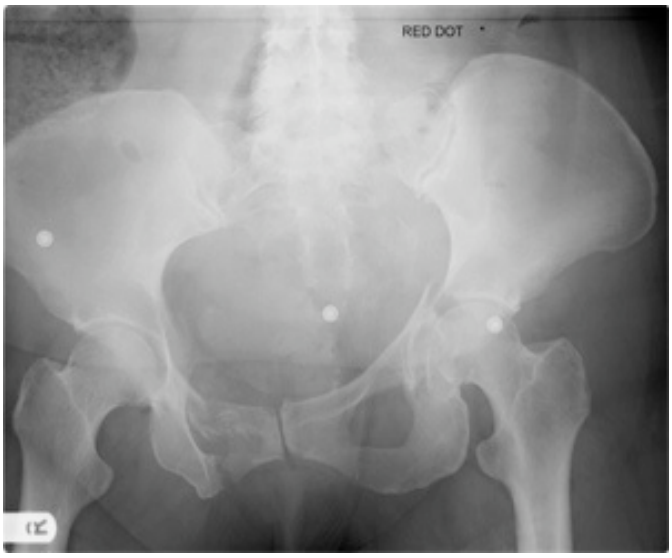
If we construct an imaginary case study of a typical patient of the young orthopaedic surgeon, Robert Jones, we can see more clearly just how revolutionary their vision of this medical service was.

The patient's name is Joe. He is eighteen years old, five feet eight inches tall and lightly built. He works in Liverpool as a railway carriage washer earning nineteen shillings and sixpence a week, which makes him poor but not a pauper. He currently has eczema and ringworm, but is otherwise in reasonably good health. As a child he had measles and whooping cough, but was mercifully spared any of the ailments that could have affected his locomotor system (no polio or tubercular joints). Normally an agile young man, unfortunately his boots are ill fitting, and this causes him to fall twenty feet off a bridge on which he and his mates are larking about one hot August day. Though it will be of no consolation to him, let us at least allow him to fall in a graceful arc before he thuds onto the earth in a sitting position. Hear a distinct crack, like eggs breaking, as he hits the ground. He is winded in the fall, and his friends watch in horror and fascination as he gasps for breath. Each out breath is a shocked cry of pain, but he is upright and conscious and doesn't appear to be bleeding. Neither of his legs is at the unnatural angles that would suggest they are broken.

He has, however, suffered major pelvic trauma: specifically fractures to the right side of the pelvis, top and bottom, a broken pubis, a cracked left acetabulum

(the hip socket), and a vertically broken sacrum, which means that the pelvis is no longer attached to the spine.

The pelvis, descriptively from the Latin word for a basin or large bowl, is a repository of viscera, major blood vessels, nerves, muscles, tendons, ligaments, genital organs, and the bladder, all of which could also have been damaged, although at this precise moment, as a direct result of the fall itself, unlikely as it seems, Joe has not sustained injuries to any body part other than his bones. There is obviously some soft tissue trauma, but nothing life threatening, although 'Injury to the bony pelvis carries a significant mortality and morbidity'.[128]



X ray showing pelvis fractured in several places (see above for list of injuries)

At the time of Joe's fall, in 1888, there is no standard accident and emergency service. Some hospitals do have ambulances, but they are few and far between. They have been used in London for the transport of cholera patients since 1832, and in 1867 London's Metropolitan Asylums Board had six horse-drawn ambulances to

[128] www.trauma.org

convey smallpox victims from their homes to fever hospitals. Anyone able or willing to pay for the hire of the horse could send for an ambulance by telegram or in person. Liverpool's Northern Hospital has had its ambulance for just over a year at the time of Joe's accident. Some ambulances are run by funeral homes, hearses being used for the transport of those who can neither stand nor walk. In June 1887, the St John's Ambulance Brigade established first aid for public events in London. First Aid is also taught, but at a price beyond the reach of working class youths on low wages.[129] Joe's friends decide to carry him to the nearest hospital on a stretcher improvised from their jackets.

Two jackets are laid on the ground, slightly overlapping, the sleeves stretched out on either side. Joe's friends gather round and lift him under his arms and knees. His response is predictable, although fortunately in the immediate aftermath of the fall adrenaline and endorphins have been released, which counteract the worst of the pain. However, this won't last. The 'stretcher' is inherently unstable. Joe's feet dangle off the lower edge, exerting dangerous pressure on his broken pelvis, and as they carry him he slips between the two jackets causing his sacrum, now in two pieces, to start shifting. Every step, every jolt, jars him into gasps or screams of fear and pain, and his lack of stability exacerbates the injuries he received in the fall.

[129] The Parish Newsletter from Tickhill in Yorkshire for January 1908 advertises classes. For a 2/6 admission fee, 'every person of intelligence should be able to [render] immediate temporary assistance…in case of Haemorrhage from a Wounded Artery, Drowning, or a Severe Fracture' – though a fractured pelvis would have been beyond the skills of even the most experienced first aider.

They decide to take him to hospital rather than home. The cost of a doctor's visit to the home would have been anything up to five shillings – more than a quarter of his weekly wage.[130]

Small rural, or cottage, hospitals had been springing up since 1859 – the first being established at Cranleigh, Surrey. Normally, working men paid into 'sick clubs', and indeed the small hospitals Jones set up along the Manchester Ship Canal were in part funded by contributions from the navvies' pay. Jones would have been familiar with this method of payment through his work with the dockers in Liverpool. Also, 'from the end of the 19th century, in civil engineering, it was a requirement of law that provisions were made for the accommodation, health and spiritual welfare of workers on major construction projects' (Wardropper 29).

Prior to the Ship Canal construction navvies had organised Sick Clubs, taken over by the Navvy Mission when it was formed. The custom was that an injured man was taken care of by his gang until he recovered. One man in the gang would be detailed to look after him. This would have been ad hoc at best. It also meant that both the injured man and the mate assigned to his care lost crucial working hours, important both to men who were paid hourly (4 1/2d.) for work, not for being off sick, and to the company who had penalties to pay for coming in over time and who therefore had a vested interest in keeping men at their working posts. The service envisioned and practised by Jones and his teams meant that all those sick or injured had access to the same high standard of care as close to the site of their accidents as possible.

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[130] www.geocities.com cites 5/- as standard rate, though they also say that 'most doctors charged only 1s.6d. when they were aware of a patient's inability to pay'. Charges seem to have been rather ad hoc though. Max Arthur's *Lost Voices of the Edwardians* on www.englishdemocraticparty.org.uk quotes a patient as saying' 'The doctor pleased himself whether he came or not…and if you hadn't got half a crown (12-and-a-half-pence), he wouldn't come in the house to look at you'. The National Archives currency conversion site gives the sum of 5/- as the equivalent of just under £15 today, although at a quarter of Joe's weekly wage, a doctor's call out charge would be considerably higher today.

In a letter, J.T.Walker – Jones' house-surgeon at Latchford – describes the work done in the hospitals:

> Mr Jones did all the major operations, which were mostly amputations. There were a good many of these, but the most frequent accidents were fractures – all sorts. The great bulk of admissions were accidents, but a few other surgical cases were sent in, and some acute medical, such as pneumonia and rheumatic fever. These latter were accommodated in the small ward, where also any case needing isolation was put. We had occasionally a case of erysipelas[131] happening, but the disease never spread. Those were the days of antisepsis, before asepsis became adopted, and although cleanliness was observed, there was not the preparation or the meticulous safeguards now taken. Carbolic lotion or perchloride of mercury and plenty of iodoform or boracic acid were used at operations and for dressings. Frequently there was slight suppuration after amputations, but it was never serious, and the results were very good. Except for erysipelas I never saw any complication, and although many of the cases were bad crushes of fingers, hands, etc., there was no tetanus. The Hospitals were well stocked with medicines, splints, etc. The latter were mostly designed by Mr Jones or his uncle Mr Hugh Owen Thomas. Thomas' hip-splints, knee-splints, etc., were in constant use. Fractures of the femur were put in the knee-splint, and when the patient could get about he had a caliper.

Joe is not in a sick club. Liverpool has several hospitals where they could have taken him. His friends carry him to the Stanley Hospital, which had been established twenty years earlier, and by now, 1888, had become a general hospital for the city's poor.[132] Unfortunately his lack of immobilisation during the journey to hospital has caused some blood vessels to rupture, and he is now bleeding

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[131]Called 'St Anthony's Fire' in the middle ages, Erysipelas appears as a hot, painful rash. In Jones' time, the rash would have usually been on the face. Often originating from streptococcal bacteria present in the patient's own nasal passages, it can be a very serious post-operative complication – it is sometimes known as the potentially deadly 'flesh eating bug'. The essayist Charles Lamb died from it in 1834, as did James A. Bailey of Barnum and Bailey's Circus in 1906.

[132] In 1873, the year Jones commenced his training, the hospital committee appointed a physician and surgeon to arrange for the hospital to be opened daily for the admission of patients, instead of once a week as had previously been the case. This step was taken because of the increasing number of accidents arriving from the docks.

internally. In addition, bone movement during the journey has led to his bladder rupturing. This was always fatal.[133]

There are no x rays taken of him. It will be another eight years before the first diagnostic one will be taken. Thirty-one year old Doctor Robert Jones, appointed surgeon here in 1881, examines the youth, and immediately his experience tells him there is nothing do be done except wait for death. Pain relief is administered. Alcohol, opium, morphine (six times as potent as opium), and laudanum (a liquid preparation of opium and alcohol) were popularly used at the time, and the less addictive aspirin was developed to replace opiates from 1889, not that Joe has enough life left to become addicted to any drug. For a few minutes longer, he is the oldest survivor of a family of eight children, three of his younger siblings having succumbed to pneumonia, rickets, and a burst appendix. Joe's formative experiences of burying brothers and sisters mean he has been paying 2d. a week for burial insurance[134] since he began work, which will at least save him and his family the degradation of a pauper's funeral.

There could have been one final degradation in store for Joe. Medical students need bodies, lots of them: live patients to practise on, dead ones to dissect. In 1888 it was common for workhouse infirmaries to turn bodies over to the nearest medical school. In theory a family had 48 hours to claim its loved one. In reality it was often assumed poor and illiterate people wouldn't make a fuss if they were told the body had already been buried. The going rate for a body was about £3. This was a lucrative business for workhouses and they would happily admit a no-hope patient like Joe. He was lucky to have been admitted to a proper hospital, although

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[133] www.emedicine.medscape.com/article/441124-overview

[134] According to Maud Pember Reeves in her 1913 publication, *Round About a Pound a Week*, burial insurance was a huge but immovable part of a working man's weekly budget. A typical no frills funeral cost around £2 for a child, if the grave was shared.

when Charles Macalister records in his memoir that he signed on for his anatomy class in Liverpool because there was ‘plenty of material to work with’, he does not say from where the ‘material’ was obtained.

> Even if Joe had survived the move after the fall, his prognosis would have been grim. As early as the 1830s, a French doctor, Joseph-Francois Malgaigne, worked on pelvic fractures. He often stuck a broom handle into a victim's rectum, to act as a kind of internal splint, but also recognised that a build up of gas in the intestines was common after abdominal trauma. A broom handle being a solid structure and therefore prohibiting the release of gas, he changed to using a hollow cylinder. This was also rather ineffective.

Had Joe survived, he would have probably been doubly incontinent and wheelchair or bed bound, totally dependent on the care of others, and a huge drain on his family’s meagre resources. Pelvic injuries as a result of severe trauma can also leave the patient in such intense pain they are suicidal.

> A comparison of ‘Joe’s’ treatment with an actual case from a hundred and more years later, shows how much things have changed, for patients like Joe, for surgeons such as Robert Jones.

On Thursday August 22nd 2008, two women are strolling along the St Andrews’ pier. There is no handrail. One of the women has just shared with the other the undergraduate legend that, during Freshers’ Week, if you fall from here onto the rocks below, you will be posthumously awarded a first class honours degree. It is nonsense, but each new academic year it is passed on to each new academic intake. As they reach the end, one woman jumps down to the lower level. The other, a fifty-three year old, hesitates and loses her balance. The tide is out. The fall onto the seaweed-covered rocks below is twenty-five feet.

St Andrews Pier taken by Russell Wills. The accident happened at the far end.

She hears bone crack as she lands in a sitting position. Her left leg sticks straight out in front of her; the right is bent so her foot rests in a cold rock pool. She is relieved to find she can wiggle the toes of each foot, suggesting that her spinal cord is intact. She struggles to control her breathing, each out breath is a shocked cry of pain. She tries to assess what other damage she has done, work out what might be going wrong internally. Although there are differences in the gender, fitness, and age of the accident victims, both the accident itself and the resulting injuries are identical.

However, at this point the two case studies diverge dramatically.

By chance the Fife coastguards are on exercise, so within three minutes of the fall a professional is sitting beside her. He uses his mobile phone to contact the emergency services. She takes all of this for granted, and listens as the coastguard says that she is conscious and lucid, but that her injuries are probably serious. More people, other coastguards, arrive. One member of the team squats at her back supporting her neck and shoulders. The ambulance siren wails in the distance, the lights flashing as it descends the hill to the normally peaceful harbour. Two paramedics in their green uniforms clamber down to the beach and pull on their gloves before one administers intravenous pain relief.

The woman hears the men discussing how to get her off the beach. She's very close to the harbour wall, and getting her onto an immobilising spinal board is not going to be straightforward. They could call for a helicopter and have her airlifted off the beach, but although the drama appeals to the woman, no one else is very keen on the idea. They apologise for cutting her jacket off. Because it is waterproof it is too slippery for them to keep a firm hold on. With the support of about a dozen people, her head and neck are braced and they slide her onto a board. They place several straps around her body to secure her, before carefully picking their way off the beach. They tilt her almost sideways at one point and she cries out with fear, but they have her so thoroughly strapped onto the board and supported by so many highly trained people that she is carried safely from the slippery rocks to the ambulance, where in addition to the pain relief she's covered with a blanket and given oxygen to breathe. Her friend sits with her, and one of the paramedics monitors her condition all the siren-screaming way to the hospital.

Although details vary from hospital to hospital, region to region, over the hundred years between these two case studies, clear protocols governing the admission of a trauma patient to hospital have been developed. Roles and responsibilities have become specialised and differentiated since Jones examined boys like Joe. Arguably, it was Jones' work on the canal that started the process of trauma management we know today.

> One, perhaps surprising, feature of the way Jones operated is that frequently he used no anaesthesia. To our squeamish twenty-first century sensibilities this appears barbaric, but Jones had his reasons. Even now, it is agreed amongst accident and emergency doctors that a general anaesthetic administered to a patient suffering from shock can be fatal. Watson's biography reminds readers that in the 1880s and '90s there were no local anaesthetics. He quotes from a letter Jones wrote to a colleague:

Does not the story you give me of death in fractures after an anaesthetic remind you of the time of the Manchester Ship Canal and before the days of cocaine, when we discarded operating with an anaesthetic and remained with the patient all night? They never lost consciousness and rallied and got well, and the mortality was reduced from about eighty per cent to twenty per cent (66-7).

It is worth bearing in mind that patients when Jones was working would not have been used to pain relief. Perhaps they were more tolerant of pain. Perhaps they expected it. Neither Sullivan, in *Navvyman*, nor Watson in his biography of Jones, record how patients responded to a lack of pain relief. Indeed, Watson's depiction of navvies is a romantic, even pantomime one – 'all his belongings tucked in a bundle, a coloured kerchief round his powerful neck, good-hearted and hard-working, he was a man after Robert Jones' heart. He [Jones] discovered in him [the navvy] great personal fortitude under pain, a sardonic humour and an innate cleanliness of mind …' (69).

Watson claims that Jones 'formed a deep admiration and affection' (69) for these working men. It could well be true that he admired men whose prodigious work reflected his own practices, and his attitudes towards working class men seem to have differed from those held by many of his own class at the time.

The Minutes books from the Liverpool Medical and Literary Society[135] record Jones as being consistently on the side of the workingman, particularly when he

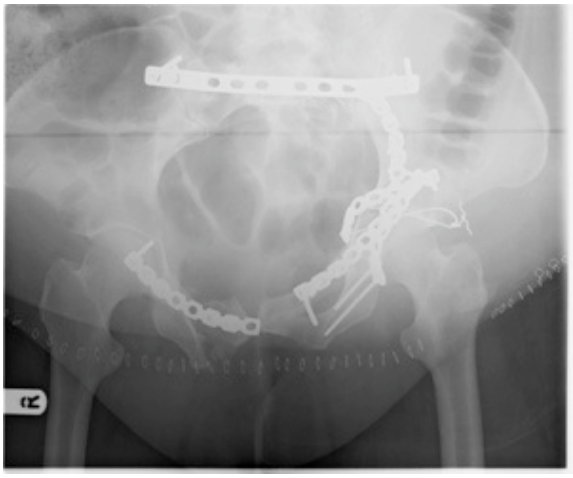
[135] The Society was set up in 1884 by Jones and three student friends – James Rose, William Kelly and Charles Steele. Its object was to 'exist for the purpose of enabling its members to learn the art of speaking in public'. Membership was increased first to 20 and later to 30. The host provided tea, coffee, bread and butter and plain cake. Sessions alternated between presentations on medical topics and debates on subjects as diverse as Byron's 'domestic relations' (a euphemism for incest), The History and Uses of Tobacco, and Bachelordom vs Married Life (Jones favoured the latter, and considered 'that the undue tendency to clamour for women's rights was most prevalent in unmarried women'). In other debates, he appears to have believed that elementary education should be free to all, but that socialism was an unsound concept because it 'does not sufficiently promote thrift and energy…cannot recognise merit…would lead to the extinction of private property…[and] would produce an intolerable sameness in men's lives. He further pointed out the dangers of preaching such revolutionary doctrines to the Democracy' (Minutes LM&L Soc April 18 1888).

broke the law. On June 15th 1887 (work on the Manchester Ship Canal began in November of the same year) Jones addressed the society on 'The Criminal and the State'. He reiterated his opposition to both the gallows and punishment by the cat o' nine tails. In a debate two years previously, on February 7th 1885 on the abolition of capital punishment, 'in a lengthy and eloquent reply' Jones 'showed that a man who committed murder in drink was punished for an act committed in a moment of irresponsibility', and 'regarded the death penalty as a measure by which the criminal was killed instead of being cured'. Charles Macalister in his unpublished memoir *A Physician's Retrospect* notes 'other members at that time did not share Mr Jones' views' (18). Perhaps these liberal ideas contributed to his willingness to become involved with the treatment of a rough, inebriated sub-section of society.

At the time the Canal was being dug there were a hundred and fifty thousand navvies working across the country. They were responsible for manually building the infrastructure necessitated by the Industrial Revolution – canals, roads, railways, docks, and reservoirs. The navvy 'created new landscapes and changed old societies. It was a mass transformation by muscle and shovel' (Sullivan 4). Their work was astonishing. It is claimed that even the Great Wall of China pales beside their achievements. And the changes in medical provision can be viewed in the same light. Prior to this, care for a workforce was ad hoc and depended on questionable abilities in untrained men and women or a patient's ability to pay.

The middle-aged woman who fell in St Andrews did not have to pay for any of her care. Had she had her accident in 1998, it is likely she would have been immobilised in plaster casts and traction for at least six months, leading to severe muscle wastage. Up to two years of slow, difficult, and painful rehabilitation would have been needed for her to return to mobility. Permanent damage to the nervous

and/or lymph systems is not uncommon. However, despite a delay due to complications, our 2008 patient had an ORIF (Open Reduction Internal Fixation – titanium plates fixed inside her pelvis) two weeks after her admission, and two weeks after that, she stood – albeit with assistance – on her own two feet.



2008 Post-operative x-ray showing plates fixing pelvis, pubis, acetabulum and sacrum.

When it was time to leave hospital, after 98 days, she walked out on a zimmer frame. A retired orthopaedic surgeon who telephoned the patient a few days before discharge said that it had been nice talking to her especially as when he had been told the extent of her injuries, he'd been surprised to hear she was still alive. The last one hundred years of orthopaedic development meant a fuller and faster recovery than could have been hoped for by previous generations of patients and their surgeons.

I am the middle-aged woman who fell and fractured my pelvis and left elbow on August 22nd 2008.

When 'Joe' had his fall in 1888, Robert Jones was employed by the Stanley and the Royal Southern hospitals in Liverpool as a General Surgeon, but although

Jones did much work gratis, notably continuing his uncle's practice of seeing patients at his clinic for free on Sundays, there are enormous differences in Jones' private practice and the public service currently available to all patients in the UK, and viewed as so controversial in the US today.

Mr Faz Alipour and the teams who cared for me in 2008 are employed by the NHS in Scotland – specifically Ninewells Hosital in Dundee and St Andrews Memorial Hospital. The cost of my treatment and care over the 98 days that I was in hospital is enormous. All that expertise: coastguards, paramedics, ambulance drivers, surgeons, doctors, anaesthetists, nurses, radiologists, cleaners, physiotherapists, occupational therapists, cooks, binmen, porters, ancillaries, laboratory assistants, even administrators, has to be paid for. Just the filter inserted into my vena cava after I had developed blood clots in my lungs, and the specialised equipment needed to put it in and later take it out, together cost over £1000. I was given a CD when I left hospital. It contained copies of the 991 x-rays and CT scans taken during my internment. The treatment would have bankrupted me had I been charged for it. Even taking medical and technical advances into account, for the young man injured in 1908, payment would have been completely beyond his capability. It would have taken him more than a lifetime to pay for the doctor, hospital bed and nursing care, the splints and plaster of Paris, and the limited drugs for control and relief of his pain. There were few medical specialties, most treatment being administered by general surgeons and physicians. But Joe's real tragedy is that his accident happened when it did – or perhaps I should really say that I am lucky that if I had to fall, it is my good fortune that I fell in 2008.

The system Robert Jones developed for treating the sick and injured navvies and their families coalesced elements from all the models that had preceded him.

Three permanently staffed hospitals liaising with local doctors, with Jones acting as surgeon-on-call, relied on teamwork and mutual respect. It was well organised, efficient, apparently cost effective, and self-contained, 'requiring neither negotiations with nor coordination among different hospitals' (Cooter 102). There was a clear hierarchy, good communication, a new and effective system of triage, and successful treatment for patients. However, it is also important to bear in mind that an efficient medical service contributed to the efficient functioning of the workforce. Quick and successful treatment, particularly of minor injuries, enabled patients to be returned to working fitness.[136] For a company coming in over time and grossly over budget, Jones' success would have been seen as a necessary means to a clear end.

Jones himself did not find it difficult to reconcile patient care with the resumption of a useful working life. Indeed, to Jones, these ideas were not contradictory. As we have seen and will see, rehabilitation of function, which is an underlying orthopaedic principle applied to limbs, was one of the Thomas principles Jones and his 'disciples' applied to the fundamental wellbeing and self esteem of his patients as whole men and women – whether they were damaged in peace or war. This service was neither an exercise in philanthropy nor paternalism. Nor does it seem to have come about through a desire for radical medical reform. Rather, it was an extension of Jones' existing work. He might have seen it as an opportunity to extend orthopaedic practice and for those he appointed to gain experience with treating fractures and returning useful function. But it should also be viewed in the context of a shift in business thinking towards the end of the nineteenth century

[136] 1700 men were left permanently incapacitated as a result of injuries sustained while digging the Canal.

which, under pressure from the developing Trades Unions, was beginning to re-evaluate attitudes towards the labour force.[137]

It is also worth saying that the organisation of care for the navvies on the Ship Canal was a quantum leap forward in public works. These tiny, temporary, wooden hospitals, demolished after the Canal opened, did not differentiate between the gender, age or income of patients. They symbolise a paradigm shift in society and organisation – the beginnings of the birth of today's health service.

Whatever his reasons for taking the position at the Manchester Ship Canal may have been, as a life experience Jones' time working on the canal was vital for what was to come. Watson sums it up as 'a rehearsal in miniature' (70) for the work he did later in the Great War, for 'In those years he learnt the elements of organisation, of supervision, and of desperate casualties under primitive conditions' (ibid.). A surgeon does not cherry pick amongst those in extremis, sorting the drunk from the sober, the criminal from the victim, and the classless from the classy. This applied to the young Robert Jones in his early thirties when he organised care for the thousands working on 'The Big Ditch', and it would apply again just over twenty years later when the Great War faced him with a problem on a scale no one could have possibly imagined. But first he turned his attention to cripples, in particular, children.

[137] Employers' Liability Act, 1880.

Hands

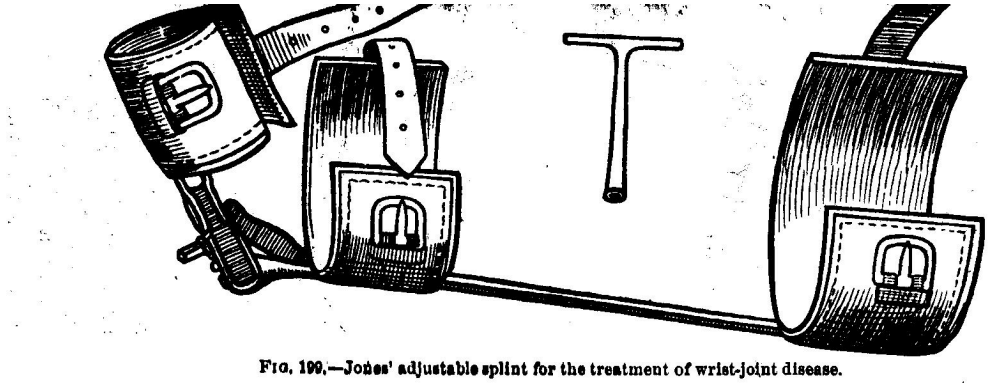


FIG. 199.—Jones' adjustable splint for the treatment of wrist-joint disease.

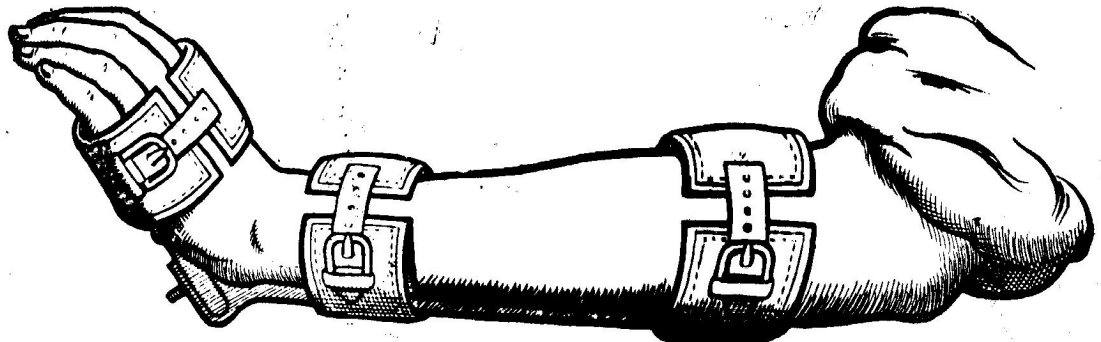


FIG. 200.—Jones' splint for wrist-disease applied.

Hands embody the extremes of what man can do, the dextrous and the sinister. We can extend them in friendship or use them to fight. They can wield a hammer and knead bread, arouse a lover and soothe a child, paint a bridge and place a pin, crush and cradle, forge and flail, mend and maul, winnow and wallop. For those who believe it, our life can be read in our hands, and we say that doctors hold our lives in theirs. Hands are a surgeon's most important tools.

The Liverpool Medical Institution holds a bronze of Robert Jones' right hand, cast in 1927, when he was 70 years old. The hand is not large. The fingers are long and tapering. It shows the beginnings of Dupuytrens contracture, where the layer of tissue under the palm slowly thickens, causing the fingers to contract.[138] Research has not yet established its cause. There are several theories, one of which speculates that early trauma to the hand may be a contributory factor.

Although the two things may not be linked at all, in his student days, Robert Jones liked to box bare-knuckled. This contradiction, between reckless, violent action on the one hand and professional healing on the other, represents two extremes of people and society; the destructive and the creative, the brutal and the philanthropic.

First, the destructive and the brutal: boxing. Later in the chapter, the creative and the philanthropic: the building of a children's hospital.

Scenario 1 –

The place: a cellar, somewhere in Liverpool

The time: evening, the 1870s

The players: a physically assorted group of young men

After a cheap oyster supper, a group of medical students clatter down into a cellar. They are all public school educated, and at least one will become a world famous surgeon. The purpose of the evening is for two men to box bare-knuckled until one falls down. The 'winner' then boxes someone else until one of them falls down. Whenever one falls there is another enthusiastic young man eager to step into his place. The bouts are neither time limited nor weight differentiated.

Scenario 2 –

The place: behind the church in a small, Scottish, coastal town

[138] This mainly, but not exclusively, affects the ring and little fingers.

The time: night, now

The players: organisers, spectators, and fighters

Once a fortnight, after dark, a bare-knuckle boxing match takes place, although 'match' is the wrong word entirely. It is not a match in any conceivable shared meaning. It's a fight: a bloody, visceral, crunching, keep- slugging-away-until-at-last-one-of-you-falls-down-and-can't-get-up-again fight. A fight governed by three simple rules: you can win, you can lose, and you can't attack each other 'below the belt'. It's never a draw. The people attending these fights aren't interested in such ideas. If it isn't below the belt, it's fair. If they've bet on the winner, it's fair.

The two scenarios may be separated by time, class, and social mores, but are they so different? Money is the clear purpose for the fighters in the second scenario. If you win you get more, but even the loser gets a purse. The phrase 'high stakes' is derived from early bouts where the winner's purse was placed on top of a tall stake.[139] The prize money might be displayed differently these days, but it is still the primary motive for boxing bare-knuckled.

A fighting man, "Jimmy", talks cagily about his experiences. His rough, scarred hands[140] rest loosely on his knees, and someone has to roll cigarettes for him, as his fine motor skills are now limited. Jimmy says, with some pride, that his children got more than they wanted or expected for Christmas, even though he lost his last fight, but he is reluctant to reveal his feelings about the event. Bare-knuckle fighters have no idea beforehand who they are going to come up against. Although he is a powerfully built man, and has fought in one way or another all his life, Jimmy doesn't stand much over five foot three. On this last occasion his opponent was well

[139] Other terms derived from boxing include 'come up to scratch' which refers to the scratch made in the dirt – the fighting line to which each combatant had to make his way unassisted at the start of each round, to prove he was capable of continuing the fight.

[140] In the 18th and 19th centuries, it was common practice for boxers to soak their hands in a vinegar solution to harden the skin. For a fight the knuckles would be greased.

over a foot taller and, in Jimmy's words, "built like a brick shit'ouse." As he recalls the fight, he takes a long swig straight from the bottle of vodka in front of him, gives a ragged grin which shows missing teeth, and makes a couple of jokes, but his eyes show that he remembers the pain and the punishment he took.

I wonder about the use of the word 'punishment' to describe what happens to boxers in a ring. As well as being a trope for the split lips and eyebrows, broken noses, black eyes, and cauliflower ears to which fighters are prone, it has connotations of retribution for some wrongdoing. It could also feed a view that boxing is a kind of gentrified masochism. But is there more to boxing than that? Why would Robert Jones, training for the medical profession, risk damaging his hands, the tools of his trade? What is or was the attraction of boxing?

The concept of taking punishment gives a clue, and it's worth considering whether attitudes to violence have changed over the 130 years between the two scenarios outlined above. 'Taking' is imbued with an attitude of respect for people who will stand up and take their licks, face their fear and the coming pain with resolve, and discover how far they can go before they give up. It connotes a *Boy's Own* view of manliness. In that sense perhaps the organisers of scenario two are onto something. There really are no winners and losers when an opponent can be seen as a means of testing one's own strength, mettle, and endurance limits.

Robert Jones and his student friends went to public schools, where these qualities were seen as virtues, highly desirable to develop in the boys growing into the men who would run the Empire. However, if "Jimmy" is typical of the kind of men who participate now, it is unlikely that today's bare-knuckle fighters would have the chance to run anything, much less an Empire.

One major similarity between the Victorian and contemporary scenarios is that they are both illegal, although in the first the bouts are private whereas the second is nominally a public event. At the time Jones and his friends were boxing, public bare-knuckle matches had been banned. The young men could have been arrested for unlawful assembly, and any injuries sustained would have resulted in charges of common assault. Matches still went on of course. Organisers would situate a fight close to a county boundary so that if 'the blues' came to halt proceedings they could up stakes and scarper to a different jurisdiction, possibly one with a more sympathetic magistrate.

The major difference between what Jones took part in and the clandestine affair of today is the prize money. Although Robert Jones occasionally paid a sparring partner, financial gain was not a feature of either his, or his colleagues', participation, so money was not the motivation.[141]

In his book about the fight between Muhammad Ali and George Foreman in Zaire in 1975 (known as 'the rumble in the jungle'), Norman Mailer suggests that one way a man gains inner strength is to take a beating without quitting.[142] The measure of the protagonist is how much he dares, rather than just an indicator of his skills: the competition is in the gamble, the risk, as well as the contest. Participants are violent people who have controlled themselves through self-discipline. Mailer calls a good boxer an artist, and says that training builds speed, confidence, and an inner comprehension of how to respond to stimuli with a minimum of movement.

For a student doctor like Jones, this might have provided justification, if any was needed, but it is still difficult to square bare-knuckled boxing with the words in

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[141] Freda McMurray recalls that Jones 'engaged two boxing professionals, one named Meadows…to come and instruct him, and the young doctors assisting him in the art of boxing' (*JBJS* Centenary Edition).

[142] Mailer's *The Fight* describes the run up to the fight. Ali and Foreman were paid US$5 million each. Foreman is described as keeping his hands in his pockets 'the way a hunter lays his rifle back into its velvet case'.

the Hippocratic oath about never doing harm to anyone. It might be plain to see how tenacity, confidence, dexterity and discipline are all qualities required by our doctors - who would place their faith in a timid, clumsy or undisciplined medical professional? But to gain these skills through boxing, at the risk of damaging the hands doctors use to heal, still seems paradoxical. It is difficult to fathom the risks Jones took.

Joyce Carol Oates argues that 'Boxing is a celebration of the lost religion of masculinity', that there's a universal fraternity for 'men fighting each other with only their fist and their aiming'.[143] She makes a key distinction between the aesthetics and the ethics of boxing.

This too is applicable to Jones and his colleagues boxing after a long day's study. It's not hard to see the appeal of demonstrating physical skill and daring, and the rapport and camaraderie developed from repeated bouts with each other. The aesthetic of the activity might have mattered in so far as it informed the way they fought, but the ethics clearly meant little if anything. There's no evidence of coercion. On the contrary, there's plenty to suggest the young Robert Jones and his friends relished their evening pursuits. However, these sparring partners did not wear protective headgear, and nor did they always glove their hands. Even the ancient Greeks[144] wrapped leather strips round their knuckles and wrists, although their matches were brutal and bloody.[145] The British Museum has an ancient vase (c 550BC) depicting a fight. The frozen image decorating the outside shows two

[143] Sourced from www.americansc.org.uk/Online/Forum/writing_about_fighting.htm (09/04/07)
[144] The Romans invented the 'caestus', a glove reinforced with iron and lead, and sometimes spiked. When studs were added, the glove was called a myrmex – a limb piercer. These transformed the Greek 'art' into a vicious battle. In effect boxers were gladiators. In some parts of SE Asia, boxers dipped their gloves in resin and then into ground glass to enhance the damage done to an opponent.
[145] Boxing was made an event at the 23rd Olympiad in 688BC.

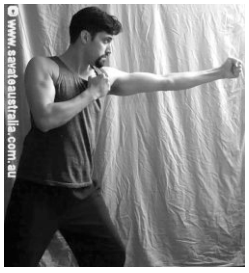
men, naked and bearded. Both have their clenched and wrapped fists raised. One bleeds copiously from his nose.

Gloves, made mandatory by the Marquis of Queensberry rules in 1866, protect both hand and wrist.[146] They diminish the external damage done to the boxer receiving a blow and they provide increased defensive capabilities. But they change the way of fighting, and paradoxically might make the bout more dangerous for both combatants. Bare-knuckle boxers tend to stand further away from their opponents and they often land blows on body parts softer than the head.[147] Because the wrist is protected, gloved boxers can afford to throw their punches with increased power, and they can also change the nature of a fight because of the shield effect.

There are biomechanical differences between modern, gloved boxing and pugilism (bare-knuckle fighting).[148] The latter developed directly from sword fighting where the technique was to perfect the linear action of the thrust or lunge. Indeed, pugilism used to be known as 'Fencing with Fists', and it's not too much of a stretch to extend the analogy into the precision of movements required by surgeons. Fighters, like Jones and his friends, extended their fists vertically, that is with the back of the hand facing the outside line of the body and the fingers the inside line.[149] This is important for the skeletal alignment of the arm when throwing a punch. The entire arm is extended in one line from the shoulder through the fist with the elbow tucked beneath the arm. The wrist is held completely straight which maximises the striking surface by using the whole fist rather than the last knuckles. This makes the

[146] The rules included 30 seconds between bouts; no butting, gouging, biting, kicking or tearing the flesh; no deliberate falling on each other; no seizing of the antagonist below the waist; a man classed as down when one knee and one hand touch the ground simultaneously. Kicking a man when down was called 'purring'.
[147] The brain damage now associated with boxing can be traced, in part, to the introduction of gloves.
[148] The word pugilism derives from the Latin pugil meaning a boxer, which in turn came from pugnus meaning a fist. Victorian slang for a fighter was an abbreviation of pugilist to 'pug'.
[149] Today's gloved boxers extend their fists horizontally, with the back of the hand to the sky.

punch effective in two ways. First there are fewer places for the energy behind the punch to dissipate. Second it offers more protection for the arm as a whole, therefore more kinetic energy is realised as force and distributed evenly across the fist, which protects the hand more than if the force was concentrated in a smaller area. Because pugilists couldn't rely on gloves for protection, the distance between combatants was considerably longer than we are used to seeing today. Then, Jones and his friends would have stood just outside the range where one could hit the other without moving his body or feet. Arguably, pugilism could have contributed something to the skill, speed and agility of Robert Jones and his fellow trainee doctors; the precision of a surgical cut and the sureness of aiming a blow aren't very far apart. Perhaps this partly explains why they did not use gloves. The skills and the self-discipline required to box without gloves would have been attractive.



This illustration shows the straight stance and head of a boxer extending his arm straight from the shoulder as a pugilist would do.

In the late eighteenth century bare-knuckle boxers tended to be tall, burly men. The emphasis was on the power of the punch. Hands were held in front of the body and very little footwork was involved.[150] However, even then, the 5 feet 7

[150] Unlike the 'float like a butterfly, sting like a bee' approach proposed by Mohammed Ali in the 1960s.

inches tall, 160lb, Daniel Mendoza[151] proved that speed and agility could overcome brute strength. This skill over force is something the young Liverpool medical students prized in themselves and each other. Robert Jones was not a very tall man – suggestions of his height vary between five feet five inches and five feet seven. Although his portraits in the last years of his life show the effects of eating rather too well, as a young man he looks spare and leanly built. His friend, Charles Macalister, recalls, 'We were of uneven weights. Jones, in those days, was solid and very strong…Rose was very small and light and I vividly recollect him being taken clean off his feet by Jones and sitting down on his own [Sunday top] hat' (67).[152] Boxing taller, 'meatier' opponents, and defeating them, must have thrilled him, and would certainly have contributed to his self-esteem and confidence. Watson reports that in his teenage years Jones had aggressive tendencies which he channelled into thunderous letterwriting. The boxing would have obviously given him another, more effective outlet.

Boxing was revived as a sport in Britain in the late seventeenth century, and from its inception it attracted the interest of artists and aristocrats, the latter's interest partly due to the betting opportunities it afforded them. Despite its obvious homoerotic overtones, this semi-naked display of controlled aggression was thought to foster the 'manly' virtues of discipline and fortitude.[153] Hogarth painted a portrait

[151] In 1790, Daniel Mendoza was the first boxer to receive royal patronage – the Prince of Wales took a keen interest in the young Jew's career in the ring. It is claimed that Mendoza introduced science into boxing – certainly he introduced defensive skills like sidestepping. Although this meant he could – and did – beat much heavier opponents, some spectators thought these new methods were unmanly, even cowardly. Other boxers, however, both admired and copied his skills into their own repertoires.

[152] James Rose was one of the co-founders of the Liverpool Medical-Literary Society. Watson describes him as 'a man of meagre physique [with] the heart of a bull terrier' (39). After qualifying, he worked on the Isle of Man as an oculist.

[153] In 1722 the *London Journal* ran a report of a boxing match between women.

of the first British champion, James Figg.[154] Géricault and Constable made boxing the subject of paintings. There is some evidence that Pope and Swift attended Figg's academy, which opened in London in 1719, and at the other end of the century, Byron and Keats admired the sport. In July 1821, at George IV's coronation in Westminster Abbey, eighteen of the country's leading boxers were chosen to be the ex Regent's ushers and pages. The Duke of Wellington said that boxing 'tends to produce and keep up that natural undaunted bravery and intrepidity which has enabled our armies to conquer in many a hard-fought battle'. Control, discipline, fortitude, and bravery, are all qualities our young student doctors would have valued in themselves and each other. It was part of the cultural milieu into which Robert Jones was born.

Portrait of James Figg in 1714 by Jonathan Richardson the elder Note the pronounced upper-body musculature.

[154] The 6 feet tall, 185 pounds Figg, is traditionally considered to feature in *A Rake's Progress*. Hogarth is also said to have produced Figg's business card, which advertises lessons in self-defence using sword and quarter staff, but that is now disputed.

In 1821 Hazlitt wrote an essay, also entitled *The Fight*, in which he asks the reader, 'have you ever seen a fight? If not, you have a pleasure to come.'(12). He thinks fighters should show courage tempered with modesty and elegance – 'A boxer need not be a blackguard or a coxcomb'(14), and tells of his journey to Hungerford to see a bout between a boxer called Neate, and a fellow pugilist known as the Gas-man.

> Neate…held out both his arms at full length straight before him, like two sledge-hammers, and raised his left an inch or two higher. The Gas-man could not get over this guard – they struck mutually and fell, but without advantage on either side … the fight was a good stand up fight … to see two men smashed to the ground, smeared with gore, stunned, senseless, the breath beaten out of their bodies; and then, before you recover from the shock, to see them rise up with new strength and courage, stand steady to inflict or receive mortal offence, and rush upon each other 'like two clouds over the Caspian' – this is the most astonishing thing of all:- this is the high and heroic state of man (17-20).

He abjures his readers to 'do something to shew as much *pluck*…as this, before you assume a superiority which you have never given a single proof of by any one action in the whole course of your lives!'(20). On his journey back to London, he and his companion are 'exulting in the fight' (21).

Their admiration is palpable and Hazlitt clearly expects his readers to share it, fighting being, in his opinion, this display of man in an 'heroic state'.

'Pluck' would have been needed. There are records of grievous injuries sustained during bouts. The *DNB* reports that in 1730, James 'Figg's 271st trial … was terminated in his favour when he cut his opponent's wrist to the bone', and Mendoza advocated that fighters should hit opponents 'on the eyebrows, on the bridge of the nose, on the temple arteries, beneath the left ear, under the short ribs, or in the kidneys.' A blow to the kidneys 'deprives the person struck of breath,

occasions an instant discharge of urine, puts him in the greatest torture and renders him for some time a cripple.'[155]

Although this probably made no difference to Robert Jones, the fact that literary figures were also fans of the sport is something of a demonstration of boxing's status in Victorian England. Dickens[156] and Thackeray[157] are reported to have attended the 1860 fight between the American John C. Heenan[158] and the British champion Tom Sayers,[159] and Conan-Doyle (also a doctor) made his detective Sherlock Holmes a skilled fighter.[160]

Through the nineteenth century, boxing began to lose some of its popularity with the rise of the middle classes and temperance leagues, because of its close associations with drinking and gambling, but that did not stop the first official varsity match which took place in 1897, and the gloved championship fight between Gentleman Jim Corbett and Bob Fitzsimmons was the first sporting event ever to be captured on film.[161]

It is tempting to think that the clubfooted poet Lord Byron, or the tubercular Pope and Keats, might have admired the magnificent prowess of young men engaged in this particularly physical activity. Respect, approbation, and frank admiration (even yearning for or envy of) an athletes' physical perfection might explain these men's fascination with the sport, and also goes some way to

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[155] See Mendoza's *Treatise on Boxing* available on www.sirwilliamhope.org

[156] It could just be a coincidence, but is nevertheless worth noting, that Dickens' *Bleak House* concerns the stranglehold of the court of chancery, and in pugilism there was an infamously brutal hold known as 'the suit in chancery', which involved one fighter grasping his opponent round the neck and continuously battering his face with the free fist.

[157] Thackeray had his nose broken during a boxing match while he was at school.

[158] Heenan's wife is reputed to have had affairs with Dickens, Dante Gabriel Rossetti and Dumas.

[159] The match lasted 42 rounds over 2 hours and twenty minutes and only ended when the crowd broke into the ring to stop the fight.

[160] Conan-Doyle also created a boxer protagonist as the subject of his 1922 collection *The Croxley Master and Other Tales of the Ring and Camp.*

[161] The last official bare-knuckle bout took place in 1889 between John L. Sullivan and Jake Kilrain. It lasted an epic 75 rounds, only ending with the knockout of Kilrain.

explaining the continued interest of Robert Jones and his medical student friends' interest in this type of controlled violence.

Many people today see boxing as unacceptably brutal, that placing opponents in a ring with a set of rules simply sanctions, even celebrates, violence. But Victorians saw it quite differently. Combat sports either derived directly from weapons-based martial arts, or were seen as a means of developing useful self-defence skills. Using fisticuffs was an honourable way to settle a dispute – either in planned or spontaneous circumstances. Indeed, in the latter case, onlookers often became default referees, affording respect only if the participants acted in accordance with rules – which would have been the Marquis of Queensberry rules by Jones' student days. These rules allowed a protagonist to settle a dispute in a 'civilized' way. Queensberry advocated gloves, but the change didn't happen immediately, and many pugilists of the time wrote in the introductions to their manuals that the science of boxing actually helped to prevent the violence from getting out of hand by providing a socially controlled limit to what was acceptable. The British pugilist, Johnny Walker, describes a variety of cultures from around the world, characterising them by their attitudes towards violence and their favoured weapons. In his view, the British are most comfortable with their fists.

This then is the context in which we see Robert Jones and his fellow student doctors fighting in a Liverpool cellar in the 1870's. Here is a group of exuberant, energetic young men, brought up in a class-system that celebrated and fostered specific virtues for men, a system that used sport to inculcate these views. The attraction of the activity's physicality might be recognisable, but there is still a problem with the moral value. There are strong arguments concerning the brutalisation of both participants and spectators.

In their 2001 publication, *Ethics in Sport,* Angela Schneider and Robert Butcher consider the moral oppositions to two of the sport's features – those of its object and its effects. Winning is by knockout, but even in the modern system, points are awarded for the damaging effects of blows. They argue that 'boxing has a split personality' (367). It is something 'that an athlete can enter into as a straight test of physical skill…without…animosity…[but as] modern fencing developed from an earlier activity that was intended to maim and kill' (367), in reality it is a survival contest which pits man against man and requires controlled rage, even barbarism, to be successful (success being the knockout required to win a bout). But it is precisely the contest element that gives boxing its attraction: the sense of pride (self respect rather than arrogance) from being skilled enough to defeat an opponent who surpasses you in size and strength, to adhere to a non legal code of practice, to conduct oneself courteously (if it is possible to punch politely). To paraphrase Rice, it was not winning or losing that mattered, but how the game was played: 'truthfulness, courage, Spartan endurance, self-control, self-respect, scorn of luxury, consideration one for another's opinions and rights, courtesy, and above all fairness.[162] These are the fruits of the spirit of sportsmanship – in them…lies the best hope of social well being' (12).[163]

[162] American sportswriter Grantland Rice authored the couplet 'And when the One Great Scorer comes to mark against your name, /He'll write not that you won or lost, but how you played the game.' Despite being written by an American, this represents a particularly British characteristic. (A recent trawl of Internet sites revealed a young American's view that the author must be 'a spineless retard'.) It seems to reflect a line from Henry Newbolt's *Vitae Lampada*, 'Play up! Play up! And play the game!', a poem about empire and the attitudes which won it, which included admiration of Sparta: its virtues and victories, martial skills and military might. This appreciation was probably formalised by the Tudor writer, John Aylmer, who commended Sparta's government as a model for England.

[163] Morgan et al, from Chapter 1 – Sportsmanship As a Moral Category, James W. Keating, pp 7-20.

In Victorian England, the terms 'gentleman', 'sportsman', and 'amateur' were, for young men of Jones' class, interchangeable.[164] These friends were training to become doctors, so would not have partaken in rigorous boxing training or professional coaching. Their boxing was for fun, exercise and the display of good conduct. The outcome was not what mattered. Being a good loser would have given them the chance to display the virtue of self-control in the face of adversity, and the opportunity to let off steam after an arduous day studying. The habit of playing sport after a long hard day's work never left Robert Jones. There are accounts of him rustling up a game of cricket and forcing exhausted colleagues, porters, nurses and doctors, out onto a patch of green to play with each other once they had finished work.

Skill, dexterity, endurance, comradeship, self-discipline, and confidence, virtues developed and/or enhanced by boxing, were crucial in the growth of young surgeons. But boxing has its negative effects too.

One of Robert Jones' obituaries suggests that another important reason for boxing was that it enhanced the young student's knowledge and understanding about balance and musculature and bones, giving him 'a most intimate practical understanding of the mechanics of support and the function of movement' (6),[165] undoubtedly vital for the man who will be given the epithet 'father of modern orthopaedics'. However, there is a story that once he hit an opponent so hard that the man flew across the room and was knocked unconscious. Jones apparently 'spent an anxious time reviving him' (ibid. 8).

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[164] Malcolmson, Robert W: Boxing's 'patronage extended from labourer to lord, and in many instances both social extremes were to be found at the same match…Sylas Neville, a spectator at a match in Norwich in 1722, remarked on "what a concourse of people of all ranks there was to see this fight…".' (42-3)

[165] Blair-Bell, W. British Masters of Medicine. Robert Jones. *The Medical Press and Circular*. July 3, 1935.

And, one evening, the young Doctor Jones was on his way home from visiting a patient when he encountered a drunken labourer beating up his wife in the street. Jones hit him hard. The wife-beater went down head first. Jones ran home and spent a sleepless night expecting the police to call and arrest him for manslaughter. Arguably the instinct to save his own skin and reputation overrode the doctor's desire to treat a violent patient.

For the British Medical Association, boxing injuries differ from those sustained in other sports because of the intention to inflict hurt. It argues that cuts, bruises, cracked and/or broken ribs, dental problems, internal bleeding, and damage to eyes, ears and nose, are unavoidable. It cites several cases of young fighters who have suffered brain injuries during bouts.[166]

The medical profession also has concerns about chronic and cumulative brain damage. Retired boxers who are described as 'punch drunk' when their reactions are slowed and their speech slurred, are in reality showing symptoms of brain damage, and there are suggestions that Muhammad Ali's Parkinson's Disease can be attributed to the long term brain damage he sustained during his career.

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[166] 27-year-old featherweight, Paul Ingle, suffered an extremely serious brain injury during the 12th round of a fight in September 1999. After emergency surgery to remove a blood clot, his life hung in the balance for a while, and although he survived, he had to cope with impaired speech, inability to walk and short-term memory loss. The fact that it is now mandatory for professional medics to attend every boxing match only meant he received medical attention more promptly than Michael Watson, who was left wheelchair bound and permanently brain damaged after a fight in 1991. However, the attendance of medical teams at Bradley Stone's last fight in 1994 did not prevent his death, and although the American Gerald McClennan made a partial recovery after his last fight in 1995, the onsite medical team could not prevent him from losing most of his sight. All these fighters wore gloves.

The brain's regenerative capabilities are limited, and the damage is cumulative. 'A strong punch can carry a thousand pounds of force, the equivalent of being hit by a 12-pound padded wooden mallet travelling at 20 mph' (362).[167]

But for the excited students in that Liverpool cellar in the 1870s, physical damage seems not to have been an issue. Understanding the body mechanics of throwing and receiving punches would have been common at the time, particularly one assumes for students of the human body, and it is probable that as a young man Jones would have had little thought of protecting his hands for the future. That would have seemed a long way off.

When Jones was invited to America in 1921, to receive honorary degrees from Smith College,[168] Yale, and Harvard, he delayed his passage home so on a humid Saturday afternoon in New Jersey he could attend the Dempsey vs. Carpentier heavyweight boxing bout. Billed as 'the battle of the century', the match was officially attended by just over eighty thousand people. It ended in a knockout after just over eleven minutes.

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[167] Schneider, Angela and Robert Butcher. *Ethics, Sport, and Boxing*. This research was not conducted during Jones' lifetime.

[168] Only 30 recipients of the 513 Honorary Awards listed on the all female Smith College's web site are men. These include J.K. Galbraith in 1989. Among the extraordinary list of notable women honoured is Marie Curie.

In a letter to an American colleague in 1928, Jones wrote that one of his most interesting memories is of ‘seeing the heavyweight John L. Sullivan sitting in the smoke room of the hotel at which we stayed with his mouth wide open snoring loudly, in all probability very alcoholic’.

Robert Jones was the product of his class and time. It is tempting to see boxing as a trope for the aspects of Victorian society that were brutal, violent and painful: the abuse of class power, the lack of health and safety legislation leading to tens of thousands of unnecessary accidents, the desperate squalor of slum living conditions. Boxing may be a controlled form of man at his most animal, like stags rutting for supremacy, but it also demonstrates something other than the basest in us. Those who box, value and understand physical prowess, and possess some admirable qualities. The boxing in which Robert Jones and his friends took part brought together two extremes of Victorian life. The violence is at one end of the spectrum, but at the other end is the apparently contradictory desire to do good, to extend an open hand rather than a clenched fist: fighters as comrades rather than opponents.

A second apparently violent act for which Robert Jones used his hands is mentioned in another of his obituaries. This refers to his practice of ‘manual osteoclasis’. To a doctor it will be immediately obvious what this is, although it’s less clear to a layperson. It means using one’s hands to break bones. Jones used this as a method of treating the knock knees or bowlegs resulting from rickets, which, up to the discovery of vitamins in the 1920s, was thought to be the result of syphilitic

parents rather than lack of the vitamin D required for calcium absorption. Reginald Watson-Jones' description of operating days at the Robert Jones Agnes Hunt (RJAH) Memorial Hospital (then the Shropshire Orthopaedic Hospital) recalls two theatres between which Jones moved: 'a cartilage would be removed…in one theatre; and while the pressure crêpe bandage over copious wool-dressing was being applied the bowed tibiae of a child were being corrected by manual osteoclasis in the next theatre…' (*JBJS* Centenary Edition).

This procedure was not always performed either on children, or under anaesthetic. The American surgeon, Leo Mayer, tells of how Jones worked:

> Unreduced Colles' fractures yielded to his powerful grasp. With a word of warning to the patient: "This will hurt a bit," he gripped the displaced bones as if in a vice and then with a sudden force the distal fragments of the radius were brought into alignment with the shaft and, before the astonished patient knew it, two splints had been applied, holding the fragments in perfect reduction. And through it all Robert Jones kept beaming his warm smile and giving words of encouragement.[169]

The archive in the RJAH Memorial Hospital library in Oswestry, Shropshire, contains a memoir of a patient who recalls Jones breaking children's bones with a 'quick snap' before plaster of Paris was applied as a splint. It is recorded that he and Sister Hunt disagreed over the practice. She called it barbaric. Jones did not argue, he simply suggested that she find him two patients, and he would treat one his way and one hers.

When the occasion arose, he went ahead and operated on one child, administering an anaesthetic, creating a long incision, sawing through the bone before breaking it with a mallet and chisel, aligning the break, and suturing the wound closed, before a plaster splint could be applied. Chatting comfortably away, he placed the leg of the second child over a wooden wedge, and snapped the bone.

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[169] *JBJS* Centenary Edition.

Within an hour the second patient was back on the ward, eating a meal and laughing with his friends and the nursing staff. In contrast, the first was groggy, nauseous and irritable for a couple of days. The wound was sore for some time afterwards, and the swelling of soft tissue meant the plaster had to be removed on the night following the surgery to ease the pressure.

This appears typical of Jones' behaviour. Unlike his uncle, he was not quarrelsome and confrontational, but he believed in his methods, and was not apologetic about using them. He let his work speak for itself. Sister Agnes never agreed with this treatment, but she had to concede that his patient suffered no ill effects, whereas recovery from anaesthesia took her patient much longer. Jones did emulate his uncle in this respect: Thomas held the view that patients had enough to contend with already without adding fearful anticipation, the added pain following surgical intervention, and anaesthetic recovery to their problems, if avoidable.

Anaesthetic in the latter part of the C19th was a very blunt instrument: like using a navvy's steamhammer to break through the soft skin of a chestnut. Ether was unstable. Chloroform had some extremely unpleasant side effects. It put patients to sleep, but its vapours can irritate the eyes and respiratory tract. The after effects can produce dizziness, nausea, vomiting, heart arrythmia, even kidney damage.

Manual osteoclasis was by no means the standard and conventional practice of Victorian doctors. John Ridlon, the Chicago orthopod and friend to both Thomas and Jones, recorded:

> Osteoclasis by the use of the hands of the surgeon alone is not so easy a matter as it first appears. Comparatively few are able to break the leg bones of a child of 2 or 3 years. When no other means are at hand the leg can sometimes be broken over the edge of a table by the surgeon throwing his weight upon it. In this way it is not possible to fracture very accurately or very near the end of the bone (270).

Robert Jones was one of the ‘comparatively few’, and from his point of view this treatment was far better than the alternative. The child did not suffer a time of anxiety anticipating a surgical procedure. In Jones’ view this anxiety prolonged recovery, and it was better not to expose a patient, particularly a child, to the extra twin sufferings of anxiety and side effects. So the decision was a patient centred one. The osteoclasis required dexterity, accuracy, strength and speed. If Robert Jones did not acquire these skills during boxing sessions, he surely honed them there.

Although the rickets Jones treated manually disabled a lot of children, it was not the only crippling condition he had to treat.

Children, particularly those living in poverty, fell prey to a number of diseases, and also:

> …malnutrition. Even starvation – a condition known as marasmus… In investigating the causes of crippling in late Victorian Britain, reformers were startled to discover that most cripples were not born physically impaired but that their impairments were produced by chronic poverty and its attendant endemic childhood diseases, such as tuberculosis, marasmus, and rickets (Koven 1175).

Marasmus is a form of malnutrition affecting very young children. Nowadays we might expect to see it in countries in the developing world experiencing famine conditions when a nursing mother’s milk supply is severely reduced. Sufferers are typically extremely emaciated, with a body weight up to 80% less than is normal for

their height. Their muscles are wasted, their skin dry and hanging in loose folds. And this was commonly found in working class children in Britain in the nineteenth century.

For those not suffering from starvation, the odds were that they would be fed on milk contaminated with tubercle bacilli. A doctor who trained under Robert Jones in Liverpool recalled that the majority of their young patients were suffering from tuberculosis. There was an urgent need for an institution that would provide long-term care, and more conventional, scientific treatment for tubercular and otherwise chronically sick children.

'Tuberculosis is a disease more ancient than man, caused by an organism which is perhaps the oldest living creature on earth' (Cartwright 120). All civilisations, all countries, have been ravaged by the disease. The earliest evidence of tuberculosis in humans was found in a Neolithic grave in Germany dating back to 5000 BC. In towns and cities like Liverpool, closely-packed people in closely-packed dwellings meant it spread easily and quickly.[170]

There are two types infecting people – human and bovine. The human type is spread by direct contact, and most often attacks the lungs. It is also known as phthisis or consumption, the latter because it seemed to consume sufferers from within. Symptoms include a bloody cough, fever, pallor, and physical wasting. In Jones' day, it was almost always fatal.

[170] Writing in 1685, John Locke reported that one-fifth of all the deaths in London were caused by consumption, and it was equally prevalent – and lethal – in rural areas.

The bovine type is usually acquired from drinking milk from contaminated cows, and tends to be a childhood disease attacking glands, joints and bones. It is also known as scrofula or the King's Evil. It was proved in about 1870 (when Robert Jones was just thirteen) that tuberculosis can be carried in milk, but an attack of bovine tuberculosis immunises against the human form, so many physicians believed it disadvantageous, even dangerous, to treat milk to kill tubercle bacilli.

However, in 1889-90 surgery to treat tuberculosis affected body parts accounted for 26% of all recorded operations. To a surgeon like Robert Jones, by then in his early thirties, the milk trade was a public scandal, shielded by political influences and glossed over by public apathy. 'Milk', Jones said, 'accounts for 70 per cent of the tubercular infection of bones and joints'.[171] In 1921, he was reported as stating 'that half of the cases in a large hospital for cripples are tuberculous in character' (Cargin 894). In 1922, when Jones was in his mid sixties, the Peoples' League of Health reported no less than 40% of Britain's dairy cattle were infected, and the danger was heightened because the way milk is collected and stored in bulk means that just one infected cow can contaminate the whole supply.

Tuberculosis was a problem Jones faced his entire working life. When he retired as President of the BOA in 1926, his speech included the plea: 'We can all of us take part in an agitation for a pure milk supply. Efforts which should be national and compulsory are now isolated and sporadic. What will the next generation say of a people, who, knowing the nature and danger of the tubercle bacillus, permitted infected milk to pour into their cities?'[172]

At his death, an obituary in the *Daily Herald* Jan 16 1933 reported that:

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[171] www.rcn.org
[172] Reprinted in *JBJS Am.,* 1926; 8: 247-256.

> He was the first surgeon to achieve permanent cures of patients suffering from spinal tuberculosis. He discovered that the disease, which produces increasing deformities as age progresses, could be cured if the patient could be kept motionless for from five to seven years. Many patients accepted this terrible sentence, and to the surprise of the medical profession were afterwards able to walk and pursue a normal life.

This is too grand a statement for what Robert Jones achieved. He did not *cure* tuberculosis. That might have won him a Nobel Prize, and fame wildly beyond what he had. Only antibiotics, or a combination of antibiotics and surgery, can affect a cure, and antibiotics were not fully developed for mass production until the 1940s, a decade after Jones' death.[173]

What Jones did do, however, was to enable many patients to avoid permanent paralysis as a result of tuberculosis. His treatments were a way of managing the disease and its effects, rather than curing it. By placing patients on an abduction frame, for instance, he allowed their bones to stiffen and fuse in a position which would restore function. Treatments had to be long term – very long term. A treatment book from the RJAH library shows a child with a tuberculous right knee, admitted in April 1906, was still receiving treatment in April 1908.

Treatments and recommended cures for tuberculosis have ranged from the sublime to the ridiculous.[174] They have included drinking asses' milk mixed with powdered crab shells, inhaling turpentine, sleeping with seaweed under the pillow, chewing liquorice, taking a mixture of pigeon dung and weasel's blood, or drinking

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[173] Coined from the Greek words anti – against and bios – life, by a pupil of Pasteur's, Paul Vuillemin, in 1889, antibiotics are a chemical substance produced by one organism which is toxic to another. Mould was used to treat infected wounds in ancient cultures – the Chinese used mouldy tofu for boils and carbuncles – but nobody understood why this was effective in fighting infection. Work done by, among others, Lister in the 1870s, Emmerich and Low in the 1890s, and Fleming in the 1920s, came together in the work of Florey, Chain, and Moyer in the mass manufacture of penicillin in the 1940s.

[174] Due to the disease's prevalence it is unsurprising that so many well-known people suffered from it – what disease respects fame? Among those whom it claimed were Tutankhamen, Cardinal Richelieu, Frederic Chopin – who drank a glass of champagne on his deathbed, Vivien Leigh, and Eleanor Roosevelt, as well as the writers Elizabeth Barrett Browning, Emily Bronte, John Keats, D.H. Lawrence, Katherine Mansfield, George Orwell, Edgar Allan Poe, and Robert Louis Stevenson.

'dilute acid of vitriol in a decoction of bark'.[175] Receiving a Royal Touch from the monarch was also a treatment, particularly for those suffering from swollen neck glands. It was thought that being touched by a monarch who was ruling by divine right would affect a cure. By the time of his death in 1683, Charles 11 had touched over 92,000 people.[176] A French painting from 1892 shows a tubercular young woman being transfused with blood directly from a goat.[177]

Traditionally, there had been little or no interest in treating children in hospitals. This was partly due to the extremely high infant mortality rates during the eighteenth and nineteenth centuries, which meant that, in order to protect their reputations, many hospitals then specifically excluded the admission of children as patients. Jones wrote in 1899 that he doubts 'if there be any branch of surgery so neglected by English surgeons' (267) as paralysis in children.[178]

Infant mortality rates stretch credibility. In their early years, foundling hospitals were little better than places for disposing of unwanted children.[179]

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[175] www.kznhealth.gov.za

[176] Samuel Johnson was touched by Queen Anne when he was two years old. Not all monarchs shared the faith of cure-seekers. William of Orange is said to have 'accompanied each touching with the words "God grant you better health and more sense"' (Cartwright 122). The custom ended in England when George 1 came to the throne in 1714, but continued in France until the mid nineteenth century.

[177] In 1892, Parisian Dr. Samuel Bernheim commissioned Jules Adler to paint a woman being transfused with blood from a goat. Bernheim believed this treatment would be efficacious because women were physiologically closer to animals than men. The painting hangs in the Carnegie Museum of Art in Oakland.

[178] 'On some Points in the Surgery of the Paralyses of Children', in the *Liverpool Medico-Chirurgical Journal,* July 1899.

[179] Foundling Hospitals were not medical establishments. They were more like children's homes or orphanages, the term 'hospital' being a reference to the hospitality extended to unwanted children. They were not all terrifying places. Handel had his Messiah frequently performed at Coram's Foundling Hospital in London, where he was a Governor.

Between 1775 and 1796, of over ten thousand infants admitted to a foundling hospital in Dublin, only 45 survived.[180]

In her essay 'The Costs and Benefits of Caring', Anne Summers reminds us that;

> …for much of the nineteenth century neither minor nor major illness was automatically thought to require institutional treatment. The rich…were nursed at home; the poor did everything in their power to avoid entering the workhouse infirmary or sick ward. The voluntary hospitals catered for a small section of the sick population…but did not treat serious illnesses like smallpox, venereal disease, tuberculosis…[and] they rarely treated illness in small children (134).

This 1874 painting by Samuel Luke Fildes (1844-1927), showing desperate people forced to apply for shelter in a workhouse, is titled *Applicants to a Casual Ward.*[181]

[180] That is approximately 476 lost or abandoned children admitted each year. Figures from Cartwright p39.

[181] The word 'casualty' comes from these non-permanent residents of workhouses – those who turned up in distress needing urgent and immediate help, and were admitted to the casual wards of workhouse infirmaries. The painting reuses several figures from an earlier engraving, *Houseless and Hungry*, that appeared in *The London Graphic,* including the well-dressed woman on the left who is giving money to begging children. Fildes, who was adopted by his grandmother, Mary (a speaker at the meeting that led to the Peterloo Massacre), became a renowned portrait artist, as well as illustrating Dickens' *The Mystery of Edwin Drood*, and producing paintings that showed the grim reality of poverty in Victorian Britain.

Financial instability meant voluntary hospitals were reluctant to treat people who were unlikely to recover quickly if at all, and children have 'an unfortunate habit of suddenly taking a turn for the worse' (Tanner 897) and dying. Great Ormond Street Hospital's 'smallandspecial' website has a record of admissions from 1852-1914. It shows that many children admitted there were long-term cases. Five year old Sarah Legett, admitted in November 1858 (when Robert Jones was a healthy eighteen month old infant living in North Wales) was suffering from both psoriasis and rickets. She stayed for 137 days. Four and a half year old Nellie Wallace, admitted with knee problems (probably a tubercular joint from drinking contaminated milk) was a patient from June 1872 until March 1874. And in 1873, the year that the fifteen year old Robert Jones left school to begin his medical training in Liverpool, four year old Charles Allan from Paddington, whose case is described as 'striking' was admitted with scabies and tuberculosis. His stay lasted 45 days.

In the late 1890s, in collaboration with his friend, the physician Charles Macalister, Robert Jones conceived an idea for a custom built hospital for the long term care necessary to allow chronically sick children like Sarah, Nellie and Charles to recover fully.

Recognition of childhood as a separate social construct with its own rights and needs was slow coming about.

The first official move to recognise that children needed protection was the 1802 Factory Act[182] which limited apprentices' working hours, but the term 'child' as we understand it now (sociologically) was not properly defined until the latter part of

[182] The Factory Health and Morals Act, 1802 was the first in a series of Factory Acts. It applied principally to mill apprentices (who did not have to be paid), restricting their working hours to no more than 12 per day. However, machines were still unguarded, and accidental deaths did not have to be either reported or investigated. Many children were killed or maimed. The mill owner had no statutory responsibility for their after care.

the nineteenth century. Compulsory schooling[183] made children visible to professionals, philanthropists, and politicians, and there was a great deal of debate about their importance scientifically, their health and welfare, and their potential as national assets.

Understanding of children's health needs was even slower in developing. It was not until the mid-twentieth century, that film maker James Robertson made two documentaries showing children's pain when separated from their mothers on admission to hospital. Even so, it took the Platt Report,[184] not published until 1959, for there finally to be acceptance at government level of the separate needs of children who were ill or had a major disability.

This was partly because thinking about sick children was muddied by sentiment. Culturally, cripples were often used as emblems designed to provoke emotion in an audience. Dickens' portrayal of Tiny Tim was merciless and mercenary – a double whammy to stimulate both social awareness and charitable donations. Tiny Tim's survival is due to Scrooge's change of heart, which reinforced ideas, held by many of Dickens' Victorian readers, that one person's actions could be the salvation of another.

Jones and Macalister were saddled neither with sentiment nor the religious beliefs that suffering and disability were either the route to salvation or the mark of

[183] The Elementary Education Act of 1870 made school attendance compulsory for children in England and Wales aged between 5 and 13. It was opposed by those who thought it would be dangerous to educate the labouring classes to think for themselves, and by the Churches who wanted to lose neither their power (parents had the right to withdraw their children from R.E. classes) nor their income – the State provided Churches with funding to provide education for the poor. Census returns were used to check school attendance against numbers of children recorded in an area. Children over 10 could be exempted from compulsory attendance if an Inspector certified that they had met specified standards in the 3 Rs. A similar Act was passed in Scotland in 1872.

[184] This is the same Harry Platt in whose archive is the correspondence relating to Robert Jones' Birthday Book. Platt chaired the 1959 parliamentary committee which investigated the care of children in hospital. The committee found that children were expected to conform to ward routines, were not allowed to play, and under no circumstances could parents visit outside published visiting hours – in one recorded instance, visiting was for two hours every other Sunday afternoon. The report recommended that children's hospitals be run more flexibly and be more sensitive to the specific needs of sick children, with particular emphasis that children should be nursed with children not adults.

Satan. Their views were simpler, and expressed succinctly by Seth Koven: 'If cripples were made…then they could also be remade' (1176).

Against this background, we can see that Robert Jones and Charles Macalister were part of a group of men and women who bucked a social trend by foregrounding the needs of children. Rather than believing that there was nothing to be gained by treating the many children suffering from chronic diseases, Jones and Macalister were of the view that they could be cured if a suitable institution existed to provide prolonged residential treatment for them. This would present an opportunity to address both their medical conditions and their malnourishment, the latter frequently preventing children from any chance of even a partial recovery.

It was a simple argument. Time and care would prevent children from becoming permanently disabled as a result of illnesses which could be cured. Both men realised these children's problems were social as well as medical. In a letter to the *Liverpool Daily Post*, Macalister (under the pseudonym M.D.) identified 'Rest, not only of the diseased organs or parts, but rest also from the disturbed state, physical and mental, in which many [children] had previously lived', as an essential element in recovery, and in 1902, Jones wrote:

> …active treatment may be needed for nearly two years. It would therefore be unwise to admit a case into hospital for two months and then send it to a miserable home, where neglect would be the inevitable sequence. Such a case, however, after treatment, secure in the care of anxious, intelligent parents, no matter how poor, would prove a credit to all concerned….At the new Liverpool Country Hospital for Chronic Diseases of Children at Heswall…we hope to have a ward for these paralytic cases, where we can keep them as long as needed (*The Treatment of Infantile Spastic Paralysis* 351 – 360).

And there was no room for sentiment in Liverpool, in the stranglehold, even more than other major cities, of dire poverty.

It was not just poverty Robert Jones and Charles Macalister were fighting.

Horrifying as it might seem to us now, it was quite a commonly held belief that it would be better to simply allow chronically sick children to die rather than, 'by preserving them, to perpetuate a feeble inheritance' (Macalister 1). This view is recorded at the start of Charles Macalister's *The Origin and History of the Royal Liverpool Country Hospital for Children at Heswall.* It is there to show the context in which he, as physician, and Robert Jones, as surgeon, founded the hospital.

In his history, Macalister also tells of a doctor who 'spoke of a lethal chamber as an alternative proposition to the hospital' (1) planned for Heswall. This eugenics debate formed part of late-Victorian and Edwardian discussions, among some prominent and influential figures, about heredity, class, 'the nature/nurture debate', and poverty. Eugenicists thought pauperism to be an inherited disorder. It was a common belief that 'social classes…are ordained by nature…it is…not the slums which make slum people, but slum people who make the slums…' (Quigley).

Ideas about eugenics can be found as far back as Plato's *Republic*,[185] but modern eugenics as a scientific discipline was developed by Sir Francis Galton, a cousin of Charles Darwin's. He coined the term in 1883 from two Greek words: *eu* meaning good or well, and *genes* meaning born. In a lecture given in 1901, and published in *Nature*, he said:

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[185] Plato advanced the notion of quantifying a person's qualities, and the state using the number obtained to decide whether or not a person would be allowed to procreate. Rome, Athens, and Sparta all practised infanticide, a policy often applied to deformed babies and disabled children, especially girls. Roman patriarchs were given the right to 'discard' infants at their discretion. Hitler was a great admirer of these policies.

> Whether it be in character, disposition, energy, intellect, or physical power, we each receive at our birth a definite endowment, allegorised by the parable related in St. Matthew, some receiving many talents, others few; but each person being responsible for the profitable use of that which has been entrusted to him (659).

By 'profitable use' he meant that those with many talents had an obligation to reproduce, enriching the human gene pool, whereas those with few should remain childless. He did not propose particular methods of selection, hoping instead that people would see the importance of 'good' breeding.

Eugenicists, regarding themselves as socially responsible, advocated improving human hereditary traits through various forms of intervention, such as selective breeding and forcible sterilisation. Many people, including H.G. Wells, Winston Churchill[186], George Bernard Shaw, Emile Zola, Alexander Graham Bell, and William Kellog, supported its ideas. In Britain it even became an academic discipline at Liverpool University and UCL, and,

> …a widely used college textbook of genetics from 1925 argued that "even under the most favourable surroundings there would still be a great many individuals who are always on the border line of self-supporting existence and whose contribution to society is so small that the elimination of their stock would be beneficial." (Sinnott and Dunn 1925: 125) (Groce and Marks 819).[187]

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[186] Churchill was Home Secretary at the time of the Mental Deficiency Act (1913) and is credited with saying, "The unnatural and increasingly rapid growth of the feebleminded classes, coupled with a steady restriction among all the thrifty, energetic and superior stocks constitutes a race danger. I feel that the source from which the stream of madness is fed should be cut off and sealed up before another year has passed." www.eugenics.org

[187] 'The US eugenics movement grew out of the American Breeders' Association….founded in 1903 to apply the new principles of inheritance to the scientific breeding of horses and other livestock' (Quigley). Their sterilisation program ran between 1907 and 1963 – Indiana was the first State to have this on its statute books, but 30 more States followed suit. In the case of Carrie Buck in Virginia in 1927, Oliver Wendell Holmes wrote, "It is better for all the world, if instead of waiting to execute degenerate offspring for crime or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind." (www.eugenicsarchive.org) Carrie Buck was made a case for compulsory sterilisation because she had a child out of wedlock – sexual promiscuity was seen as evidence of feeble-mindedness. However, it has recently been shown that her pregnancy was the result of being raped by a relative of her foster parents. 'Nevertheless, Buck v. Bell supplied a precedent for the eventual sterilisation of approximately 8,300 Virginians' (Lombardo 6). Sweden's program ran between 1934 and 1975. In 1999, the Swedish government began paying compensation to victims and their families.

Against this background of entrenched attitudes about breeding and pauperism being genetically predisposed, the idea that crippled children were the 'shameful and useless products of race degeneration' (Koven 1175), and the vast problem of disability in a teeming, poverty stricken city like Liverpool,[188] we can see just how revolutionary Jones' and Macalister's ideas for Heswall were.

Although often tainted by sentimentality, the Victorian middle classes were motivated by a desire, a perceived duty, to do good. Victorian ideas of philanthropy are sometimes vilified now, and some activities do seem little more than smug conscience salving. Jones' friend and colleague Macalister recorded in his *History of the Royal Southern Hospital* that in 1875, the Flower Mission started. During the summer months ladies sent a flower, together with a suitable text (usually biblical) to every hospital patient once a week. 'It did much good and constituted one of the minor bridges which have been set up from time to time to bring the classes into touch with one another' (107).

While this maternalism might have made hospital words look a little brighter, it does not seem in retrospect to have done much 'to bring the classes into touch'. However, what Jones and Macalister did next crossed class barriers.

Philanthropic activities were essential to health care. Hospitals were maintained through public subscription. To be admitted to a voluntary hospital, a patient would need a nomination from a subscriber.[189] It was the ultimate exercise in philanthropy to build a children's hospital from scratch, although this dependence on

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[188] A letter in *The Lancet* signed 'W.G.' attributes squalidness in cities to 'Romanism', (Dec. 1st, 1883, p. 979).

[189] Giving to hospitals was a popular form of charity as it generally had no affiliations to church or politics. Also it was accessible to those with relatively modest incomes. Two guineas (£2 2s) purchased the right for two out-patients and one in-patient at any one time. (Figures from the RCN.) Patients had to be too poor to pay for their own treatment, but not so desperate that they were covered by the Poor Law. Sometimes the subscriber would also judge whether the patient 'deserved' their charity. Admission criteria generally excluded infectious diseases, midwifery cases, and children.

charity partly accounts for why it took twelve years for the hospital Jones and Macalister imagined to go from initial meeting to the opening.

In 1897, Ellen Sedgwick, Lady Superintendent of the Liverpool Home for the Incurables, became their ally.[190] On June 24th 1898, Jones, Macalister and the committee met at Macalister's home in Rodney Street,[191] and agreed that a site in the country would be best for their purpose, Jones recounting 'his impressions of a visit to the seaside hospital at Berck-sur-Mer in support of this contention' (Macalister 14).

A public meeting in November of the same year attracted a large and sympathetic audience. Both Jones and Macalister addressed the meeting, and a provisional committee was set up then and there. West Kirby Convalescent Home agreed to act by renting twenty of their beds for children as an interim measure. Jones and Macalister were appointed visiting surgeon and physician respectively.

An article in the *Liverpool Daily Post* of March 9th 1899 bearing the headline, 'CHRONIC DISEASES IN CHILDREN', reports a meeting held in the Town Hall attended by 'the friends and supporters of the scheme for providing hospital wards in connection with the Children's Convalescent Home, West Kirby'. The Lord Mayor, who presided over the meeting, acknowledged the contributions and commitment of Jones and Macalister, saying they were 'as highly esteemed for their position in their profession as for the benevolent ideas by which they were known to be animated.' He said it was clear that this new scheme would not increase the number of charitable institutions in the city. An increase in numbers would simply further stretch finite resources. What marked out this scheme was that:

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[190] The *Liverpool Daily Post* of Tuesday March 20th 1900 observes, 'Many…cases are incurable so long as they remain in unfavourable conditions and surroundings, but [become] curable of their maladies when these conditions are changed.'

[191] Rodney Street was 'the Harley Street of Liverpool' (Shepherd 48).

> …it had functions entirely different from those of a cripples' home, one of the great objects being to prevent children from becoming cripples…there could, therefore, be no strict limit of time, children being kept even for a period of two years[192], if it were thought expedient…It was felt that every parent would be likely to feel an interest in such an institution giving to the poor the conditions for the preservation of life and limb, and for the prevention of deformities and crippling which at present were only attainable by the rich.

It had been initially proposed that treatment at Heswall should be provided gratis, but Macalister records a significant change made at a meeting on July 31st 1899 when:

> On the proposal of Mr Andrew Gibson it was enacted that all patients other than those occupying appropriated cots,[193] should pay a minimum charge of 3s. 6d. per week in advance. This had to do with the maintenance of parental responsibility. It was felt that the children should in part be maintained by their parents, in view of the long periods required for treatment (24).

Robert Jones' response to this change is not explicitly recorded. However, Macalister's statement that the decision 'had to do with the maintenance of parental responsibility', and that 'in view of the long periods required for treatment…the children should be in part maintained by their parents' is in keeping with Hugh Owen Thomas' views about patients contributing something, however small, towards their treatment in order that they would appreciate it more fully. This coupled with Macalister's expression – 'It was felt that…' suggests consensus on the committee, so it is arguable that Jones supported this view.

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[192] Retired centenarian Dr Denys Wainwright, who trained in Liverpool in the 1930s, and remembers Robert Jones as being a 'softly spoken man', recalls that tubercular children were sometimes in hospital for as long as 4 years.

[193] Macalister records that the children of Park Street Council School paid £35 for one year's maintenance of a cot.

On November 1st 1899 the first patients were admitted to the West Kirby Convalescent Home, with a formal opening ceremony on the wards three days later. 'Sir Edward Russell, in declaring the hospital open, said he considered that it inaugurated a noble movement…that something new was being urged in an original way. In a hospital like that nature was brought to the aid of science' (25).

On December 10th 1900, a deputation including Jones and Macalister visited the Board of Education in London. The hospital applied for, and was granted, special school status – the first institution of its kind to do so. This qualified them for a Treasury grant and an allowance from the school authority. Some of its young patients were receiving formal education here for the first time in their lives.

An article in the *Liverpool Mercury* of March 30 1901 describes what life was like for the patients. It is quoted in full, as it demonstrates the novelty of the facilities it describes.

> Here the little invalids are received into bright nursery wards, each a veritable sun trap, the windows looking away across the white sand hills of the Cheshire coast to the broad estuary of the River Dee, with the blue line of the Welsh mountains in the distance. Some of the inmates have to pass long months in their cots, several of which have been endowed, and are maintained by friends of the hospital, but one could hardly have to lie in bed in more pleasant surroundings: kind nurses always at hand, fresh breezes wafted in straight from the Atlantic, and delights innumerable in the way of toys and picture books. For those able to move about there are a cheery day nursery, a play room for the boys large enough for a game of cricket, and, best of all, a sun house with high, comfortable leather couches all round it, where the children can lie looking out or watching the doves and canaries hanging in cages on the walls or enjoying the flowers and toys with which they are surrounded. During the past year too, the hospital children and others remaining in the home have been taught by a staff of voluntary teachers, who, in devoting their time to this good work, have their reward in seeing the progress made by their pupils in reading, writing, sewing, &c., and in knowing that, as the report for the year states, "their physical condition has also undoubtedly improved by the bringing of these new interests into their lives".

The paper also describes its medical success, with twelve out of fourteen cases discharged being described as 'cured'. It says the majority of the children were suffering from 'Bright's disease,[194] paralysis, and hip disease' (probably tuberculosis).

The article goes on to announce that 'a suitable site of about nine acres has been acquired at Heswall upon which to erect a hospital for the accommodation of a largely increased number', of children - around 200.

Newspaper articles continued to appear, praising the virtues of the West Kirby scheme, and urging readers to contribute to the huge sum of £30,000 needed to finance both the building of the new hospital and the endowment fund required to finance the cost of the children's treatments. Jones and Macalister had letters published, 'On behalf of a most neglected class of children whose needs are sadly familiar to us' (*Liverpool Daily Post* February 26th 1903). Watson records that Jones once wrote that what drove him were 'the tragedies of which I am constant witness – children deformed and destitute…When one sees this sad and hopeless side of life, one feels there is much to do and so little time to do it' (311).

At last, on a cold April 21st 1905, in torrential rain, the foundation stone was laid, by which time the amount needed to realise the scheme had doubled. The hospital finally admitted its first patients on February 15th 1909,[195] when children were transferred from West Kirby, even though building work was still going on. It was entirely paid for by private subscription, funds being raised by a continuous round of fetes, 'dramatic entertainments' (Macalister 29), bazaars, dinners, and

[194] Bright's disease is a generic term for different kinds of kidney disease. It was named for the English physician, Richard Bright (1789-1858), who discovered that when protein is present in urine it curdles when held over a heat source – his equipment being nothing more than a candle and a silver spoon. The poet Emily Dickinson died of Bright's disease in May 1886, as did Kitty Kiernan, fiancée of Irish revolutionary Michael Collins, in 1945. Catherine Eddowes, one of Jack the Ripper's victims, was also a sufferer.

[195] The hospital closed in 1985, its paediatric work having been transferred to Alder Hey Hospital. The site is now occupied by a Tesco store.

rummage sales, and the extraordinary generosity of a few donors like Andrew Gibson and Holbrook Gaskell. It was granted a Royal Charter a year later.

The hospital was open air[196] – there was no glass in the ward windows – as both Jones and Macalister believed this would aid the children's recovery. The benefits of fresh air were demonstrated in a lecture in Oxford in June 1947, in which the orthopod Gathorne Girdlestone opened with an image from his time working with Robert Jones: 'Children suffering from tb of the spine or hip, whom I had seen in the wards and balconies of my teaching hospital – pale and suppurating, inherited from dresser to dresser, until they died of lardaceous disease, I found…in the best of health and spirits' (187).[197]

One of Jones' obituaries recalls that he 'was greeted by the children in the open-air wards at Heswall, not with quiet respect, but literally with a yell of delight'.[198] The hospital did not just take in orthopaedic patients, it was also innovative in its work to prevent heart disease. The size and scope of the Heswall operation were unprecedented, and Macalister records that 'the barriers of tradition had to be broken down and an inelastic public opinion educated' (47) in order for it to happen at all.

The city's Myrtle Street hospital continued to provide beds for children's acute and emergency needs, while Heswall[199] dealt with the chronic cases requiring long spells in hospital. Other cities, including London and New York, followed Liverpool's example, and set up schemes for the care of chronically sick children in their areas.

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[196] 'George Bodington (1799-1882) wrote his…volume on the fresh-air treatment of tuberculosis, he was excoriated by noisy, ill-informed physicians' (www.iahm.org).
[197] This later became the Robert Jones Agnes Hunt Memorial Hospital.
[198] This obituary appeared in *The British Journal of Surgery* in April 1933. Its authorship is unattributed.
[199] Ringo Starr was a patient at Heswall for 2 years. He had chronic pleurisy. During his stay there his stepfather, Harry Graves, bought him his first set of drums. He was finally discharged in 1955.

The tenacity and practical compassion Robert Jones sustained over the many years required to realise the vision he, Macalister and others had for this pioneering children's hospital, demonstrated qualities he would need again in 1914, when he faced the biggest challenge of his career.

Arms

I shall be mad if you get smashed about,

we've had good times together, you and I;

from *The Soldier Addresses his Body* by Edgell Rickword

> In 1914, at the outbreak of the Great War, Robert Jones was fifty-seven. He had a flourishing practice at Nelson Street, held surgical positions in several hospitals, and had strong links with orthopaedic surgeons in America and other countries. He had established the postgraduate medical school in Liverpool, the British Orthopaedic Society,[200] the children's hospital at Heswall, and was working to help rehabilitate "cripples". He was a surgeon, a teacher, an administrator, a rehabilitator, and an ambassador. He had a worldwide reputation amongst doctors: 'Probably the most important figure at the turn of the century was Sir Robert Jones….Indeed many would argue that he was the greatest orthopaedic surgeon that the world has ever seen.'[201] By 1914, his age and experience could have kept him out of military service, but when the call to arms[202] came he 'signed up at once as a captain in the Reserve and was attached to the 1st Western General Hospital' (Watson 147), in Liverpool.[203]

Up to and including 1914, medical service for the military was not generally of a high quality. The New Zealand surgeon A.A. Martin records in his 1915 book, *A Surgeon in Khaki*, that 'lack of organised control was exhibited at every turn in the medical service' (8). He cites many examples, from the shortage of ambulances to having to send to London to buy his own surgical gloves. By the first battle of Ypres in November 1914 he wrote, 'As a nation we always muddle through, but it is rather pitiful to think that muddles mean the death of many brave men' (242).

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[200] Robert Jones and Alfred Tubby established the BOS[ociety] on November 3, 1894, at the Holborn Restaurant in London. There were 31 members – 13 from London and 18 from the provinces. The members were mostly general surgeons who practised some orthopaedics. It ceased to function after just four years, possibly because most of its members were not fully committed to orthopaedics. The British Orthopaedic Association was founded with the help of the American surgeon, Robert Osgood of Boston, in 1918, by which time, in part due to the needs highlighted by the type of wounds incurred during the Great War, orthopaedics was recognised and respected as a separate surgical specialty.

[201] This claim is made on the interactive website www.worldortho.com, begun by surgeons in Sydney in 1997, which provides training at both undergraduate and graduate levels. The quotation appears in the History of Orthopaedics section, authored by Dr Vlasios Brakoulias, who is careful to suggest that the claim is still open to argument.

[202] His war services were recognised by the award of a Baronetcy. His coat of arms includes a Welsh dragon.

[203] The *BMJ*, published December 26 1914, says this was the former hospital for infectious diseases Fazakerley: '…the medical staff consisting of four physicians, four surgeons, and specialists…Lieutenant-Colonel Burns Gemmel is the Commanding Officer. All the medical officers are well-known Liverpool medical men holding hospital appointments and engaged in practice in the city…The x-ray department is under the control of Captain Thurstan Holland, who recently related the results of his work at the Medical Institution before a large gathering of the members…During the last three months some 3,000 soldiers drawn from the regiments serving in the Expeditionary Forces, some naval ratings, and about 60 Belgian soldiers have been patients…' (1116).

The Royal Army Medical Corps' official history cites the earliest reference to an English military surgeon as 1223 when Henry III invaded France. It takes the form of 'a recommendation from the Chief Justice to the Bishop of Chichester of "One Master Thomas, an army surgeon, who knows how to cure wounds, a science particularly useful in the siege of castles".'[204] But the first organised military medical care came in 1660, when Parliament raised a small standing army to protect the newly restored Charles II. Each regiment had a surgeon with a warrant officer as his assistant, although there was neither status nor prestige attached to the post: 'A military textbook of the time referred to "other mean offices, as Drums, Fifes, Surgeons, and the Clarke of the Band".'[205] At this time, a surgeon was 'generally regarded as an ill-educated quack who was neither a soldier nor a gentleman' (Blanco 5). 'In contrast to the physicians, the staff surgeons were regarded as mere craftsmen' (Kopperman 431).

The eighteenth century saw a huge increase in firepower and its destructive capabilities on soldiers and sailors. Those treating the wounded appear to have had a corresponding rise in status. Some surgeons, who had experience treating battlefield injuries, published their findings. In 1744, John Ranby[206] published his *Method of Treating Gunshot Wounds*, which included comments on inflammation and amputation, which would be all too relevant during the years of the Great War. At the end of the eighteenth century, John Hunter wrote a treatise on the same

[204] RAMC Official History accessed online 17/09/2007. (1)
[205] www.army.mod.uk
[206] John Ranby 1703-1773. His influence with the King (George II) and government of the day ensured the 1745 act of parliament constituting a Company of Surgeons distinguishing them from barbers. The surgeon in Fielding's *Tom Jones* is said to be Ranby. It is also claimed he is the model for the hero in Hogarth's *Rake's Progress*.

subject.[207] Hunter advocated conservative treatment at a time when military surgeons:

> …were for the most part ignorant, poorly trained and certainly badly paid. The standard treatment of war wounds was deplorable. It comprised wholesale blood-letting together with wide opening or brutal dilation of the wound, extensive probing to search for the missile, and liberal recourse to amputation…we now realise that Hunter's surgical contemporaries, when exploring and enlarging these wounds, were introducing further contamination from their filthy fingers and instruments, as well as opening tissue planes for further spread of infection. Moreover, without the benefit of anaesthesia, it was often impossible to locate, let alone remove, the offending missile (Ellis 43-4).

However, battlefield wounds were neither the sole problem surgeons faced, nor even the biggest. Until the start of the Great War, the serving soldier was more far likely to die from disease than suffer a fatal injury. In 1752, Sir John Pringle[208] advocated the setting up of small mobile hospitals, urging that 'these be established close to the battle zone in order to prevent…the spread of contagion' (Blanco 5).

Another issue surgeons faced was the indifference or incompetence of military command. Surgeons became frustrated and impotent. During the West Indian campaigns of the 1790s, the surgeon Hector McLean lamented, 'It is not within power of medical men to pursue extensive plans, without the support of the commanding officers; they can only recommend, but cannot execute' (Blanco 7).

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[207] *A Treatise on the Blood, Inflammation, and Gun-Shot Wounds* was published in 1794, a year after Hunter died.

[208] Sir John Pringle, 1707-1782, Surgeon-General to the British Army 1742-1758. Known as the 'father of military medicine' (as opposed to surgery), he brought about an agreement with the French that military hospitals be considered neutral sanctuaries for the sick and wounded. The 1743 Dettingen Agreeement, made at the end of the War of Austrian Succession (the last time a British monarch led his troops in battle), declared military medical personnel non-combatants, and that wounded enemy soldiers were to receive medical treatment and be returned when they had recovered sufficiently. The International Red Cross developed from this idea. Pringle is also credited with naming influenza.

Some officers were similarly frustrated. General Sir John Moore[209] wrote from St Lucia during the same campaign, 'It is not the climate alone that kills troops…it is bad management' (Brownrigg 65).

Finally, during the Peninsular War of 1812-1814, Sir Arthur Wellesley (later the Duke of Wellington) was the first military commander to formally recognise the importance of soldier welfare. Although it could be argued that his concerns were more pragmatic than humanitarian, a distinction also faced and understood by Robert Jones during the Great War, Wellesley 'grasped the strategic implications of improving the health of his army' (Blanco 9), and appointed the energetic, imaginative James McGrigor as his Hospital Inspector.

McGrigor, who became a regimental surgeon in 1793, instigated a series of reforms. Supply depots were reorganised and reprioritised to expedite the flow of medical supplies to the front. Aid stations brought surgeons to the wounded rather than vice versa; general hospitals were reorganised, creating separate wards for surgical and medical cases; convalescing soldiers were billeted out of hospitals; and regimental medical record keeping was systemised, which gave Wellesley accurate estimates of the numbers of sick men who would be fit for combat – calculations that could mean the difference between victory and defeat.[210] He also urged Wellesley to boost the morale of military surgeons by giving them praise.[211]

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[209] Sir John Moore, 1761-1809, was the son of a Glasgow doctor. Fatally wounded by a cannon shot which shattered his left side, his funeral is commemorated in Charles Wolfe's often anthologised poem *The Burial of Sir John Moore after Corunna.*

[210] These records were later used to help disprove the miasma theory of infection. The miasma theory, originating in the Middle Ages, was that foul smelling air caused infection. Also known as the Bad Air Theory in the C18th and C19th, it recognised the link between dirt and the spread of disease. However it thought lethal agents were air borne and thus did not recognise, as did Pasteur's 1861 Germ Theory, that they might be water borne, or present on the unwashed clothes, hands or instruments of doctors. A remnant of this theory exists in the name malaria, from the Italian *mala aria* or bad air.

[211] The first instance of a British field general complimenting army surgeons for their valour under fire appeared after the siege of Badajoz in *The London Gazette*, 24 April 1812.

Shamefully, although Britain was at war somewhere in the world for approximately two-thirds of the nineteenth century,[212] McGrigor's positive developments were undermined or ignored. The death toll during the two years of the Peninsular War (the first for which accurate records were kept) shows nearly 9,000 died from wounds, whereas 25,000 died from sickness. Similarly, one set of figures[213] for the Crimean War of 1854-1856 estimates British losses of 4,000 killed in action or died of wounds in contrast to the 16,000 who died of disease. Despite the forty years between the two wars, the ratio of deaths from disease to wounds increased.

In the C18th and C19th, military campaigns were seasonal and scattered across the globe. This meant that at the conclusion of each campaign, facilities that had been established were closed, and the surgeons working in them sent elsewhere. There were no permanent army hospitals beyond the British Isles, and when facilities were required they were frequently makeshift because of the assumption they would only be needed temporarily. Therefore it is unsurprising that Robert Jones and his fellow medics faced tremendous problems, both clinical and logistical, in 1914. Robert Jones may have been a civilian surgeon in military uniform, but there was no question that he would go to war himself, and unlike many of his contemporaries, his work on the Manchester Ship Canal meant he had already gained invaluable experience in both organising care on a large scale and treating the types of injuries they would encounter.

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[212] Between 1801 and 1899, Britain was involved in a war, campaign, skirmish, or blockade in Ireland, India, Europe, America, Burma, Turkey, Afghanistan, China, Africa, and New Zealand.

[213] The website www.users.erols.com/mwhite28/wars19c lists and compares published casualty figures for C19th conflicts from a range of sources. White gives 'a very tentative total of 45 million unnatural deaths' caused by wars during the C19th. That is 1 out of every 96 deaths. In the C20th, with its two world wars, purges by Nazis and Stalin, the Cambodian killing fields, and so on, the odds of dying an unnatural death shortened – 1 unnatural death out of every 48 deaths. In what he calls the 'Hemoclysm' (from the Greek for blood flood) C20th atrocities took the lives of 155 million people.

The requirements of military medicine are clear. Wounds need surgery; medicine has to be both preventive and responsive; casualties and supplies need to be transported; a chain of treatment needs to be set up; and accurate records have to be kept. As we have seen, attention to each of these issues had varied in its efficacy in past wars, and very soon after the Great War began, it became clear that the overwhelming numbers of casualties exacerbated every problem.

In the Great War, a soldier faced more risks than in any previous conflict. New weapons meant new types of injury.

> He could be killed by a sniper's bullet, torn to shreds by a machine gun, choked by gas, strafed by aeroplanes or maimed by mortars and grenades … The environment also fostered a number of diabolical diseases including trench foot, frostbite, trench fever, and gas gangrene … artillery was the most deadly and demoralizing feature of this war … (de Groot 173).

In August 1914, although the governments of Europe were preparing for war, this apparently did not include preparations for dealing with the wounded. The first wounded reached London on a Sunday. Transport had to be arranged rapidly. Lyons' Corner Shop vans were used as ambulances.

By the end of September the British Expeditionary Force (BEF) had already been involved in two major engagements,[214] and although the British Red Cross was involved from the start of hostilities, the first Motor Ambulance Convoy was not shipped to Europe until October, by which time there were already thousands of British casualties.

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[214] The Battle of the Marne and the Battle of Lemburg. By the end of the first year of hostilities, which included the retreat from Mons and the first Battle of Ypres, British casualty figures are estimated at eighty per cent of the original BEF – nearly sixty thousand officers and men.

Although Robert Jones was a leading orthopaedist, he was only a junior officer, so at this stage he had neither voice nor influence in the Army. Fortunately, the Director of Army Medical Services was Sir Alfred Keogh, a man in whom 'the doctor [had] never been submerged in the officer' (Martin, N.A. 136). Keogh, who had made his name during the Boer War, had retired from the army in 1910, but was called out of retirement by the War Office in October 1914, and offered command of medical services in France. He refused the post, 'stating that he could only ensure the efficiency of the medical services if he was appointed Director-General at the War Office with direct access to the Minister for War' (ibid. 136-7).[215]

On his return from a visit to France where he had observed the wounded, the abdominal surgeon, Berkeley Moynihan, 'told Sir Alfred Keogh…that the war "would be a war of orthopaedic surgery, and you need Robert Jones in charge". Keogh agreed but said that the London surgeons wouldn't like that, to which Moynihan replied, "If you don't have Robert you can't have me"' (Smith, R. 865).

Even before his retirement, Keogh had begun to develop the idea of multidisciplinary teams working in dedicated units, so when Robert Jones first suggested beds should be allocated specifically for orthopaedic cases, his request was met sympathetically.

Watson tells us that Jones toured hospitals and, 'horrified by what he saw' (147) wrote an extremely critical report that reached the War Office. Despite extensive searches, no such report has come to light. However, Dr John Blair, who wrote a history of the RAMC, suggests that rather than a report, formally commissioned or otherwise, Keogh asked Jones, and other experts in their fields, to inspect facilities, treatments, and care, and write to him with their findings. Since, on

[215] Lord Derby was Minister for War until 1916, when he was removed by Lloyd George, and replaced with Lord Alfred Milner. Lord Derby's mother appears as a patient in Jones' surgical casebook from the Manchester Ship Canal.

his instruction, Keogh's papers were burned on his death, the original does not exist, but it is possible to discern what Jones found from reading the 'Preface' to his *Orthopaedic Surgery of Injuries*, published in 1921. He writes:

A visit to auxiliary hospitals and command dépôts was undertaken in order to find out the types of cases most urgently requiring attention. Segregated in these establishments we found large numbers of men with undiagnosed nerve lesions; ununited and malunited fractures; joints ankylosed in positions which rendered the limbs useless from the point of view of function; excisions which had resulted in flail joints, and stiff joints with inflammatory symptoms which were undergoing massage and movements. The most striking type of case was the neurological. Patients were being massaged where divided nerves had not been sutured. Functional cases, which are so readily re-educated and cured, were generally classed as malingerers. In addition to all this, numbers of instances were noted where, after operations, most excellently performed, a want of appropriate after-treatment rendered them either useless or of little benefit to the patient. This state of affairs was not due to negligence on the part of medical officers, who generally proved extremely anxious to learn and were hard working; but they were overworked, and did not possess the necessary training to enable them to treat such cases. In addition, the equipment for this type of surgery was often deficient (viii-ix).

The writing is an interesting blend of the practical and sympathetic, and his criticisms are clearly not aimed at medical staff doing their best under difficult circumstances. But it was clear that in order to prevent the same loss of function in the stream of wounded men being evacuated home, it was important to be proactive rather than reactive.

Fuelled by his absolute conviction in orthopaedics as a specific branch of medicine, Jones proposed a small-scale trial. 'The first step was to direct or transfer such cases into some institution which he could staff and control' (W 147). This followed the model he had established for the construction of the Manchester Ship

Canal. On January 18 1915, Colonel William Coates wrote to Jones, telling him that the War Office authorised 'as many beds as necessary, up to 400, to be set apart at Alder Hey for the accommodation of cases in Military Hospitals likely to benefit by orthopaedic treatment' (W 148). The numbers were a vast under-estimate of what would be required, but it was a start, and not only had Jones got recognition of the need for separate orthopaedic treatment, he had the support of men who could influence decision makers right at the top of government. Coates concluded his letter by saying, 'I am quite sure there will be a great field opened out, and that the authorities will be very grateful to you for placing your special knowledge at their service in this way' (W 148). A letter from Keogh to Jones in 1931 talks of 'the early days of orthopaedic work in the War, when its importance had to be vindicated and established. To you and to you alone the successful result has been due' (W 148).[216]

There was a problem of definition. Of the many wounds inflicted by warfare, what exactly counted as a case needing orthopaedic treatment? The answer is this: derangements and disabilities with joints (an elbow shattered by a gunshot, for example); deformities and disabilities of feet (flat feet kept as many as one in ten potential recruits from being passed as fit for military service[217]); malunited and ununited fractures; injuries to ligaments, muscles, and tendons; cases requiring tendon transplantation or other treatment for irreparable destruction of nerves; and cases requiring surgical appliances.[218] While not part of the original classification, it very soon became clear that orthopaedic centres would be most suited for dealing with those left without limbs.

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[216] Unfortunately, it is not possible to quote directly from Keogh, as his wife burned all his papers after his death, in accordance with his wishes.

[217] Joel Goldthwait did a lot of developmental work on treating flat feet to try to decrease the numbers of men passed unfit for military service.

[218] This list is taken from Joel Goldthwait's article in the *JBJS*, 'The Place of Orthopedic Surgery in War'.

In 1915 there were major engagements in France, Flanders, Gallipoli, Neuve Chapelle, Loos, and Ypres for the second time. It was obvious, even to non-medical men, that specialist treatment for gunshot wounds was needed. 'Already the overcrowded hospitals had no room for men who could never fight again, already the partially recovered were being discharged uncured, and already recruiting was suffering discouragement by the presence of patched and grumbling soldiers in every district and town' (ibid).[219]

Sir Max Page wrote in his contribution to the 1957 volume of the *Journal of Bone and Joint Surgery* dedicated to Jones that his articles in the *BMJ* 'resulted in the first forward steps in the management of septic fractures in the wars of this century' (201).[220] A soldier might survive a bomb blast or gunshot wound, but the treatment of battlefield wounds was frequently complicated by contamination from foreign bodies: shrapnel, bits of uniform, dirt from the highly manured fields they were fighting over, bone dust and skin introduced microorganisms into injuries which led to gangrene and other infections. Today, antibiotics are available, but these were not available to Jones and his contemporaries.[221]

Jones continued to consolidate his position at Alder Hey. He also travelled, wrote about orthopaedic treatment of the wounded, and gave demonstrations of procedures. Although the bed allocation for orthopaedic cases at Alder Hey had

[219] Only 32 towns and villages in Britain suffered no losses in the Great War.
[220] The articles were *Treatment of Fractures of the Thigh* in 1914, and *Remarks of the Mechanical Treatment of Compound and Suppurating Fractures Occurring at the Seat of War* in 1915.
[221] Military surgeons in Afghanistan today are facing the same problems of wound contamination that Robert Jones and other surgeons faced during the Great War.

been increased to 560, it was obviously only dealing with a minute fraction of the problem, so Jones was asked to give his views to the War Office.

> His response included recognition that Command Depots 'were not equipped with the personnel which could effectively deal with' (W149) the wounded.
>
> Jones fought hard to collect and keep together the small group of surgeons like Tom McMurray whom he had taught. It was a discouraging battle. On December 23rd 1915, he wrote to his close friend and colleague, Naughton Dunn:
>
> > A tremendous amount of pressure is being put upon everybody of military age to leave the country, and if we are not careful there will be nothing left but old crocks like myself to attend to the wounded at home – where they require perhaps more skilful attention than when abroad.
>
> The lack of orthopaedic training in serving medics was clearly a problem, so Jones decided 'to advise the better handling of cases at front line clearing stations' (W 150), and his key action at this point was to introduce the Thomas splint.

The function of a splint is to immobilise, protect, and support an injured limb. The London anatomist and surgeon, John Hilton, introduced the first traction splint for lower limb fractures in 1860. Jones' uncle, Hugh Owen Thomas, refined the design in the 1870s, and this later version became known as the Thomas splint.[222] The Thomas splint looks remarkably simple. It consists of a large ring that fits around the top of the leg, near the hip. Two rigid rods run from this ring to a smaller ring, which often extends beyond the foot. When fitted correctly, it cradles and stretches the leg so that the broken bone is drawn apart enough to significantly reduce pain. As late as 1962, it was said of Thomas that 'the outstanding feature of his splints was their simplicity, and his success in their use was undoubtedly due to his attention to detail and his outstanding mechanical genius' (Roche Courier 44), and in 1915 Jones wrote:

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[222] The splint is named for Hugh Owen Thomas, its inventor, and not, as some think, St. Thomas' Hospital.

> It has often been a matter of astonishment to me that so simple and effective a splint has not been universally employed. It can be applied in a few minutes, usually without an anaesthetic, and one is always sure of good length and good alignment. The fractured limb can be moved in any direction without giving pain, so that transport is easy and safe. I have never yet had to plate or wire a femur in a recent case, and this I ascribe to using the Thomas splint.[223]

An exhibition held in Boulogne in October 1915 demonstrated various splints to enable the wounded to be transported with less pain and therefore less chance of going into shock. The Thomas 'splint was hardly known outside Liverpool and the Boulogne exhibition succeeded in bringing it before a wider surgical audience' (Austin 29).

Figures vary, but the mortality rate for a soldier suffering from a fractured femur was very high – as high as 80%. Jones advocated supplying the Thomas splint to all front line Regimental Aid Posts, and within months of this happening, death rates from this injury plummeted to 20%. Stretcher-bearers were trained to fit the Thomas splint blindfold so they could work in the darkness in no-man's-land. Jones himself said:

> Shattered limbs, lacerated wounds, and intense sepsis confronted surgeons…. In 1917, I described gunshot injuries of the femur as "the tragedy of the War", not only by reason of the fatality by which they were attended, but also because of the deformity and shortening so often associated with them (W 152).

After the war, when there was time to reflect, Sir Anthony Bowlby, in an address to the American College of Surgeons said:

> When the use of the Thomas outfit became general the transport of the patient to the casualty clearing station was very greatly simplified, because, as soon as the limb was fixed in extension and slung, pain was either altogether prevented or reduced to a minimum, bleeding was soon checked, and the steadying of the

[223] 'The Mechanical Treatment of Compound and Suppurating Fractures Occurring at the Seat of War'.

> fragments effectually prevented further injury to the soft tissues and the spread of sepsis. The consequence was that patients arrived in infinitely better condition and shock was no longer so serious (W 154).

The impact of Hugh Owen Thomas' innovative splint cannot be underestimated. Ray Cope quotes a Colonel Crile of the U.S. Army: 'The Thomas Splint did more to prevent deaths from shock than any other single measure' (58). The splint continued in service through the Second World War, and is still carried in some ambulances to this day.

Robert Jones also developed a splint. It was used for fractures of the lower part of the humerus, the elbow, and the forearm (see title page of 'Hands chapter).

Despite his efforts on behalf of wounded servicemen, Robert Jones was never a career soldier himself. This is illustrated by the fact that during the heat of the summer of 1915, he took it upon himself to visit his tailor and have a new uniform made in a thinner, cooler fabric. However, it was somewhat 'luminous' (W 193), and Watson tells us that he overheard two shop girls remarking that he was dressed "like a bloomin' chameleon" (ibid.). Jones was persuaded to revert to his scratchy khaki after that, but he remained a civilian in army clothing. So much so, that once, when he went to a garden party at Buckingham Palace, Keogh had to take him into the rhododendron bushes to adjust his uniform before he was presented to the King.

1916 was a busy year for Jones. In January, the War Office requested that he cross to France 'for the purpose of affording instruction in the methods of using the staff splints which have been introduced by you' (W 159). He gave lecture demonstrations at Boulogne, Calais, Etaples, Abbeville, Tréport, Rouen, and Le Havre. He also visited several Casualty Clearing Stations, but at this stage does not seem to have gone any closer to the front lines.

The procedure for evacuating a wounded soldier from battlefield to hospital was as follows: first he was collected by regimental stretcher-bearers from no-man's-land or the trench where he lay and taken to a Regimental Aid Post, commanded by a Medical Officer and a senior non-commissioned officer from the Royal Army Medical Services (RAMC). Facilities were crude. Aid Posts were sometimes in a trench or the open air. They could only provide superficial medical care so were situated near support lines to facilitate the movement of the wounded. The men were assessed and logged, and the 'walking wounded' dispatched to the nearest Divisional Collecting Post, from where they were sent back to the front. Stretcher cases were sent on for further treatment, often on an arduous journey through the trenches, to an Advanced Dressing Station, sited in a suitable building or even a dugout behind the front lines, and commanded by an RAMC Captain who was assisted by orderlies. The casualty would be thoroughly examined and operated on if necessary. After appropriate treatment and logging, the next stop was a Main Dressing Station, commanded by a Major, and up to three miles behind the Advanced Dressing Station. Men were treated in huts or large tents, and it was here that treatment began in earnest, away from sniper and/or machine gun fire and shelling. Treatment until this point was organised and supplied by what is collectively termed a Field Ambulance (note this does not refer to the vehicle, rather

to its mobile nature).[224] Family legend credits Jones with bringing medical aid directly to the wounded by introducing the first link – the Regimental Aid Post – into the chain of treatment. Official RAMC histories do not acknowledge such a radical intervention in their organisation by a civilian surgeon, and it is unlikely to have been an innovation by a single man. It seems to have been an idea developed in previous wars by a range of surgeons.

The most seriously injured were sent on to Field Hospitals, made up of several Casualty Clearing Stations (CCS), and commanded by an RAMC Lieutenant-Colonel. This would be the first large, well-equipped medical facility a wounded man would get to, and could hold a thousand casualties at one time, although during engagements they held many more. They were staffed by specialist surgeons, physicians and nurses, and as the war progressed began to specialise in different types of wounds, ailments and conditions, thus improving overall survival rates.[225]

Doctor John A. Hayward served in a CCS at Crouay, near Amiens in 1918. He described the set-up.

About 1 a.m. the ambulances began to arrive. It is impossible to convey an adequate picture of the scene. Into the tent are borne on stretchers, or come wearily stumbling, figures in khaki, wrapped in blankets or coats, bandaged or splinted. All of them stiff with mud, or caked with blood and dust, and salt sweat, and with labels of their injuries attached. They come in such numbers that the tent is soon filled…It was extraordinary that in this charnel tent of pain and misery there was silence, and no outward expression of moans or groans or complaints. The badly shocked had passed beyond it; others appeared numbed,

[224] In 1914, each Infantry Division (up to 18,000 men and 5,000 horses) had 3 Field Ambulances. A Division would occupy 15 miles of road when moving.

[225] Casualty Clearing Stations were numbered and mobile. They were situated a few miles behind the lines, on a railway line (the wounded were largely evacuated there by rail, though they were also brought by motor ambulance and canal barge). Large military cemeteries are located on or near the site of CCSs. There was generally one per Division (a large military unit consisting of between 10 thousand and 30 thousand soldiers, composed of several regiments or brigades), though two or three were frequently clustered together.

or too tired to complain, or so exhausted that they slept as they stood…That dreadful day of my first experience of a Casualty Clearing Station rush ended…after thirty-six hours of continuous work.[226]

> Finally, there were the Base Hospitals, for casualties deemed beyond treatment in a Field Hospital. These were in Calais, Boulogne, and back home in England (aka "Blighty"). If a soldier got a 'Blighty wound' he considered himself lucky as it meant going home. Figures from 1916 indicate that nearly 37,000 died[227] in hospital, 170,000 were returned to duty after treatment, and 290,000 were evacuated to the U.K.[228]

Apart from his visits to hospitals at home and overseas, Jones passed on his expertise through his writing. The previous year, Oxford War Primers had published his *Injuries of Joints*, which was widely read by surgeons at the front. This was followed by *Notes on Military Orthopaedics*, a collection of papers 'that had already created the greatest of interest at the front' (W 160), and was 'an attempt to formulate the rules for the application of orthopaedic principles to the treatment of injuries received in war (Jones vii).[229] It was translated into French, and copies were ordered in America, even though they had not yet joined the allies. Sir Alfred Keogh wrote in the introduction, 'Of the many surgical problems which have needed especial attention during the past two years, none equals in importance those generally known as the orthopaedic' (xiii).

In February that year (1916), Jones had written to Keogh outlining his vision for a military hospital that would provide a system bringing together all of the elements needed for orthopaedic success. 'He desired…a demonstration unit in

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[226] www.firstworldwar.com/diaries/casualtyclearingstation.htm

[227] There are German figures that show half of all battlefield deaths were due to wounds of the head and neck. French records show an immediate mortality from a head wound of 48% and the later loss of 33% of the remainder (Stout and Duncan).

[228] To get a sense of proportion, note that in 1916 there were only 7 hospitals with dedicated orthopaedic beds, whereas 23 hospitals were used for treating venereal disease.

[229] Note the book itself was published in 1917, many of the chapters having appeared as articles in the *BMJ* during 1916.

London, which might convert sceptical or hostile opinion' (W166). Jones was of the view:

> By the time a soldier has passed through various phases of recovery from septic wounds in several different hospitals and is finally transferred to an Orthopaedic Centre for treatment to correct deformity and restore the use of injured muscles and joints, his spirit is often broken. The shock of injury, frequently in itself severe, followed in succession by a long period of suppuration, and then by a wearisome convalescence, during which he receives treatment by massage or electricity, or by monotonous movement with mechanical apparatus…too often leaves him discontented (Jones, *Notes on Military Orthopaedics,* vii).

The War Office, helped by a substantial grant from the Red Cross, requisitioned the Hammersmith Workhouse at Shepherd's Bush.

Until then, soldiers unfit for duty were immediately discharged. Thus, 'Here threatened a conflict of aims. While the main object of the army hospital was to restore men to the fighting line, the specific object of the Red Cross, working hand in hand with Robert Jones, was to enable those who would never fight again to return as useful members to civil life' (W 166).[230]

The earliest record in Britain of post-war care or compensation for the wounded was a declaration published by parliament in 1642 that provision should be made for disabled soldiers and their dependants. 'In 1648, £100 was paid to soldiers blinded at the Battle of Marston Moor',[231] but since then very little attention had been paid to the issue of what to do with soldiers once they were no longer fit for active service. Nevertheless, Keogh gave permission for curative work to start, and the first workshop opened on March 1st 1916.

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[230] As far as the army was concerned, Shepherd's Bush was an immediate success – of the first 1350 men treated there, 1000 were passed fit for return to military duty.

[231] www.army.mod.uk/212fdhosp/ramc_history/ Marston Moor in Yorkshire was the site of a major battle during the English Civil War.

In the same month, despite Berkeley Moynihan's predicted opposition 'by senior members of the Royal College of Surgeons' (Oxford DNB)[232], Jones was appointed Inspector of Military Orthopaedics, and authorised to establish hospitals along the same lines as Shepherd's Bush in other parts of the country. He was assisted in this by friends and colleagues from peacetime: Moynihan in Leeds, Harold Stiles in Edinburgh, and John Lynn-Thomas in Cardiff, but staffing the centres adequately was a problem, exacerbated by the fact that the draft was extended to married men in May/June 1916.[233] Jones wrote to the War Office putting his case for keeping his men.

> I do not wish to embarrass you at a time when you have so much on your mind. Indeed I am prepared to strain every faculty I have to help you. It is necessary, however, for me to put before you clearly, that if the emergency order in regard to overseas service is left without the possibility of modification it will be quite impossible to run certain of the orthopaedic centres. In each of these centres as an emergency measure certain men can be released, but there are some who are absolutely indispensable for skilled operative and educational work. For the moment I will not discuss the case of Shepherd's Bush, but will refer to the provincial centres, Liverpool, Cardiff, and Leeds. At Alder Hey [Liverpool] we have eight hundred orthopaedic patients, and between forty and fifty operations are performed there every week. The whole of the responsibility of this great concern in its surgical bearings rests on the shoulders of two expert orthopaedists, Captains Armour and McMurray.[234] These men by their special aptitude and training are able to organise and direct the work efficiently with a surprisingly small assistant staff. They perform all the complicated operations, and on account of the shortage of men they are responsible for several hundreds of extra military beds in the city. If Alder Hey is to exist as an orthopaedic centre neither of these men should be taken from me, however great the pressure from abroad. Whatever is done with any other

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[232] The entry continues: '…in July 1918 a committee of the college insisted that the military orthopaedic centres be relabelled "special military surgical hospitals" to avoid the implication that only orthopaedic specialists were capable of carrying out the surgery conducted there' (www.oxforddnb.com).

[233] Although voluntary enlistment was encouraged, conscription was introduced via the Military Service Act of January 1916. Single men between the ages of 18 and 41 were eligible unless they were widowers with children or religious ministers. The Act was extended to married men in the summer of that year because of a shortage of healthy eligible men.

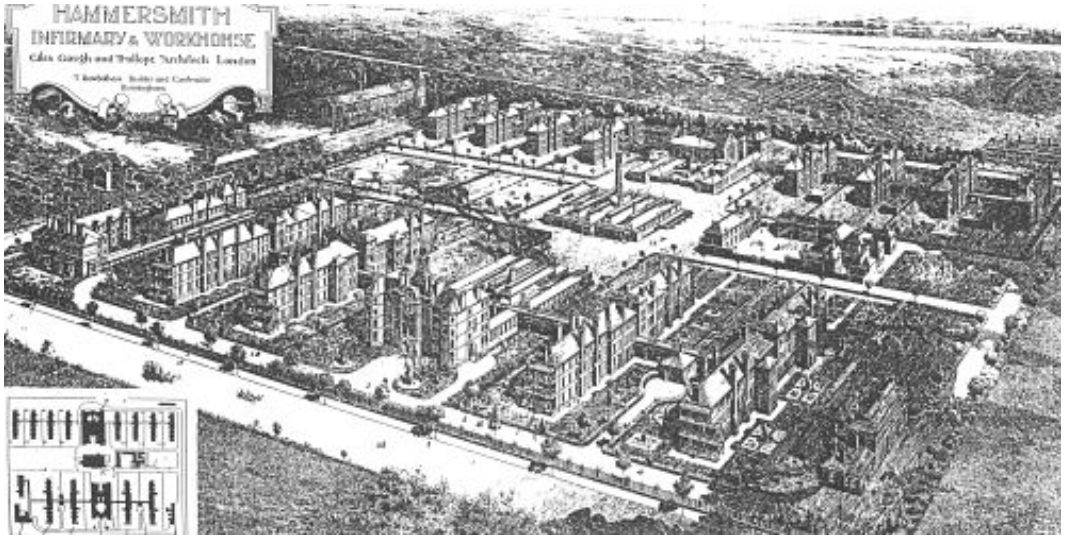
[234] McMurray does not record in his own words how he felt about this. However, in a biographical note by Bryan McFarland, 'his chagrin' (4) at being recalled from France is noted. One or two of the surgeons he put in charge of centres had been invalided home – Naughton Dunn, who had been in Birmingham before he joined the RAMC in 1915 ('much to Robert Jones' annoyance', according to Dunn's son), and Rowley Bristow were put on the staff at Shepherd's Bush. Both men had served at Gallipoli. Dunn was moved back to Birmingham in 1917 to take charge of all the military orthopaedic hospitals in the area.

> members of this staff I may regret, but I shall not complain. Both these men are at work from eight in the morning until late at night…
>
> If any of these men are taken the orthopaedic work at these institutions must cease, unless we are to bring these particular centres into discredit. The essential men at Shepherd's Bush are well known at the W.O. I hope my importunity will not be misunderstood – I am really not adding to trouble by trying to save the orthopaedic scheme from wreckage. No matter how many hospitals are started abroad, these centres will become more than ever in demand, and the very few men I ask for can do more work than thirty or forty who have not been specially trained.

Since McMurray, Armour et al continued to work in centres across England, it appears that Jones won the argument, and the orthopaedic scheme did not become 'wreckage'. McMurray does not seem to have borne a grudge at being recalled from France. He was one of Jones' most loyal and fervent 'disciples' until his sudden death in 1949. Joel Goldthwait, leader of the American orthopaedists, wrote that 'the men assigned to [orthopaedics] were treated in such a way that they were never transferred to any other line of work. They were held in sanctuary' (192).[235]

> In Shepherd's Bush, the old Hammersmith Workhouse (now requisitioned for housing the war wounded) was a long, two-storey, red brick building with a clock squatting in a tower in the middle of the roof. It had been nicknamed 'the paupers' paradise' ten years or so previously, after the Board of Guardians tried to make it a less formidable place. They put in some stained glass windows, commissioned mosaics for the walls, and smartened up the bathrooms. The Board was later removed for being too generous.

[235] *JBJS* – the Jones Centenary Edition, 1957.



A view of the Hammersmith Workhouse in 1905.

It stood on the DuCane Road, next door to H.M. Prison Wormwood Scrubs. The workhouse was still a dreaded place in 1916. Wounded soldiers arriving there must have felt doubly injured: punished for getting wounded in the first place. The men wore hospital blues, uniform even in pyjamas, and many of them would have wondered how they were going to cope with civilian lives as “cripples”. On one of his regular visits, Robert Jones spotted a patient whose hand was bent and frozen into a claw. He tutted and sat himself unceremoniously down on the man’s bed, taking firm hold of the hand. Then he started straightening the fingers, smoothing them and shaking them and saying, “This little piggy went to market, this little piggy stayed at home, this little piggy had roast beef...”, and so on. He told the patient that instead of useless and often painful exercises, here at Shepherd’s Bush he would straighten out his hand by learning a trade. Jones advocated ‘window-cleaning, hammering, planing, treadling, to clear the stiffness from the joints of wounded

soldiers in preference to…monotonous passive movements' (Keith 164). Some of the wounded went to the workshops to help make prosthetic limbs for amputees.[236]

In Scotland, Jones' assistant thought: 'The most interesting occupation in the workshops was deep-sea fish nets. They can dispose of any number, and the exercise for stiff fingers in making the mesh, and for stiff arms and legs as they sway back on the stout cord knots, is admirable' (Osgood 135).

This work hastened both physical and psychological recovery. It aimed to 'divert the mind from anxieties and morbid fears, to improve effort and attention, and to awaken interest. For the wounded it aims at the restoration of impaired function of muscles, nerves, and joints to fit a patient to resume his normal activities' (Stout and Duncan 737). This innovative and important approach to rehabilitation was pioneered by Robert Jones, a development of his uncle Hugh's understanding that a working man's disability prevented him from being the breadwinner. What Jones did was to advance Thomas' notion of constructing a splint that would allow an injured man to return to work, by understanding that if a man's pre-war occupation was denied him because of the injuries he'd sustained then it was logical to retrain him with alternative skills. A meeting of the BOA in September 1942, when the same problems were faced by the next generation of patients and surgeons:

> The President emphasized the important part played by Sir Robert Jones in the whole development of the idea of rehabilitation. It was he who…had insisted on the value of co-operation of mind and limb in the restoration of movement in stiff joints and the restoration of muscle power and co-ordination. At the workshops at Shepherd's Bush Sir Robert showed what could be done for the reconditioning of the disabled (*BMJ* Oct 24, 1942, 494).

[236] At the Sir Robert Jones workshops in his home city of Liverpool, records show that the work done was sorting out and repairing army boots. The boots were those of the dead, who no longer needed them.

From the beginning, the King took an active interest in the work at Shepherd's Bush. He visited in July, and was taken round by Jones. A year later, on July 13th 1917, Queen Alexandra visited. Always interested in health, she'd founded the Queen Alexandra's Nursing Corps during the Boer War, and after the Great War, in 1919, would become patron of the Queen Alexandra Hospital Home (Gifford House), a registered charity caring for physically disabled men and women. Lame herself,[237] following post-natal complications after the birth of her third child,[238] she encountered a patient in despair about his future. Using her own experience of disability, and the stick she was forced to use as an example, she implored him to make the best of his situation and the most of what the hospital and its rehabilitation programme could offer him. The patient's response is not recorded. Afterwards, a palace spokesman wrote on her behalf:

> Queen Alexandra was deeply interested in all she saw, and the general impression left on Her Majesty's mind was that everything that science and skill could suggest, combined with the most tender, zealous care, was being done for the wounded soldiers who deserve everything that can be done for them, and the appearance and general tone of the patients bore testimony to the happy relations that seemed to exist between the Medical and Nursing Staff and the wounded soldiers who came under their care.

George V and his mother were not the only royals to have connections with Shepherd's Bush. The exiled King Manuel II of Portugal worked at the former

[237] The Queen was left with a severe limp following a bout of rheumatic fever. Such was her popularity, that society ladies imitated her limp as a fashion statement.
[238] Princess Louise, later Princess Royal and Duchess of Fife.

workhouse for several years, and used his oratory to raise large sums of money through public appeals. The young refugee became fiercely loyal to the cause of rehabilitation, and a close personal friend of Jones'.

Despite the royal interest, military men were not all as sympathetic. Watson recalls Jones giving an account of an inspection by General Sir John French, who read the words 'Military Orthopaedic Hospital' on a board. He turned to an aide to ask what orthopaedic meant. The aide confessed he did not know exactly, but he supposed it to come from the Greek, 'and had to do with "straight" and "foot" [he was nearly right]. French snorted… "What a damned silly name to give a military hospital" (W171).

Shepherd's Bush, like the other regional centres, was like a halfway house, an intermediate stage between military and civilian life. Jones did not see military and civilian concerns as mutually exclusive. He said:

> The Army Medical Service dissociate themselves from any responsibility in regard to the discharged soldier. But the problem requires a telescope rather than a microscope. Statesmen must and will see that the economic solution is only satisfactory if the wounded soldier becomes a national asset, instead of a discontented derelict (W 179).

At this desperate time, a shortage of suitably trained and experienced surgeons again threatened to obstruct Jones' vision of surgical and curative treatment for the wounded. Sir Walter Lawrence[239] 'warned the country that "the extension of orthopaedic centres must depend on the power of Sir Robert to find or train orthopaedic surgeons".' (W 183) Later, Jones wrote that he was 'extremely

[239] Sir Walter Roper Lawrence, 1857-1940, was an experienced mediator who had managed a royal tour of India in 1905. He became commissioner for the Indian sick and wounded in France and England at the outbreak of the war, and subsequently conducted extensive enquiries for the War Office into the rehabilitation of war-disabled soldiers. (DNB)

sorry' (W 188) the British Government was failing to ensure the training of junior doctors in orthopaedic skills, although it appears that the fault did not only lie with the government. Surgeons in America, Australia and New Zealand were enthusiastically specialising in orthopaedics, but many general surgeons in Britain showed reluctance, even hostility, towards specialising.

This antipathy meant Jones turned to his close friends and contacts across the Atlantic. America was still a neutral country, so negotiations were begun in secret, but Dr Franklin A. Martin of Chicago, who was a member of the Advisory Commission to the U.S. Council of National Defense, told Jones he was 'in touch with the right sort of man – the best material in the United States' (Cope 120).

Despite their neutrality, the Americans medical services were not idling. By 1915, using the Continent as evidence of what they too might face, the Orthopaedic War Preparedness Committee was set up: a group that would inform both the American Orthopaedic Association (AOA) and the American Military Association of what military orthopaedics might mean. As early as 1915, Joel Goldthwait, who was president of this committee, as well as the AOA, wrote that the United States 'would ultimately assume some part in the struggle' (Linker).[240] This official and organised preparation meant that the Americans had the luxury of time to observe – from a safe distance – treatment of the wounded. Goldthwait and others had time to persuade the US Army and the Medical Department that orthopaedic surgeons would be an essential part of proper preparation for war. Robert Osgood and Nathaniel Allison had left Boston in 1914 to volunteer their services to Robert Jones.

[240] Joel Goldthwait, 1866-1961, is one of those credited with giving orthopaedics credibility in the US. A consulting orthopaedic surgeon at the Massachusetts General Hospital, he was chief of the orthopaedic section of the American Expeditionary Force. As Jones, rehabilitation featured prominently in his work. He went on seeing patients until he was 90.

When America did enter the war in April 1917, a team of twenty young American orthopaedic surgeons was assembled so swiftly that they arrived in Britain before Jones even knew they'd left the United States. Robert Osgood remembered:

> These men…came in many instances without waiting for official orders, and paying their own way. They left sweethearts and broke honeymoons…I had landed in England myself on May 22, and, finding two unoccupied days in London…had run up to Liverpool to…Sir Robert Jones…We were together in that historic house at No. 11, Nelson Street…The telephone rang, and Sir Robert was for running away, for we had many plans of pleasure, but Tom, the no-one-knows how-old butler…answered it before we could escape, and called Sir Robert. At the other end of that telephone was Goldthwait…who, thanks to [his] preparedness and organizing power and cutting of red tape, had answered England's call...It was a wonderful meeting, almost too much for the tired nerves of the Director of Military Orthopedics of Great Britain, who had been struggling with entirely inadequate help to care for the maimed and halt and palsied victims alike of the German war and of hasty, ill considered surgery. His emotional gratitude was harder to express than his professional, for [these men] had come, not only to serve his nation, our ally, but to serve him, because to a man they trusted him and looked to him for leadership…and it was a happy and contented group of men that met him on his lawn, at 11 Belvidere Road, that afternoon. Lady Jones was as moved as he, and perhaps more grateful, for it meant the easing of the burden which had been growing too heavy for the broad but tired shoulders of her great husband (132-3).

The American Army placed the cohort entirely at Robert Jones' disposal. He was delighted, and dispersed them among the orthopaedic centres by now operating across the country. Osgood became Jones' second in command, and in the draft preface for Osgood's book, Jones wrote of him: 'He was with me when Goldthwait arrived with the wonderful gift of young and skilful orthopaedic surgeons – the gift of America for the duration of the war. It is impossible to overstate what that gift meant to me. It saved a desperate situation.'

> Goldthwait went back to the U.S. soon afterwards, returning in October with sixty more fresh, eager, young orthopaedic surgeons. Although he remained in charge, and the surgeons were paid by the American Army, Goldthwait saw to it that Jones directed the placement of the team, and many of them were installed in the centres as trainers. Writing in 1918, Jones

> said: 'The American surgeons who have kindly come to our assistance…have been an enormous help, and have won the appreciation and respect of their colleagues wherever they have been cast' (W 188).

Writing in the *Journal of Bone and Joint Surgery* in 1917, Goldthwait showed his recognition and appreciation of Jones' work:

> At first the support of the [British] government was offered grudgingly, but as time has gone on and the character of the work has been appreciated, the support has become more and more cordial, until at present the pressure being made by the government, for expansion of the service, is embarrassing to the Inspector [Jones], owing to the to the difficulty of finding properly trained men to officer them (682).

The appreciation was reciprocal. Osgood described the opportunity for the Americans to work with and learn from 'the great master of bone and joint surgery' (W189) as a 'fortunate opportunity' for the Americans. They made Jones a hero. Goldthwait credited him with 'the fact that there were less than 4,000 amputees among 20,000 wounded American soldiers' (W189), and an old friend, J.F. Binnie, a surgeon from Kansas City, wrote to him: 'There is one man – not an American – whose word has become Gospel to the Medical Department of the U.S. Army, and that man is yourself. I know this to be so, as I am spending two weeks in an advisory capacity in General Gorgas'[241] office' (W 187). After the war was over, in 1919, Robert Jones was invited to speak at the Congress of the American College of Surgeons. When he stood to deliver his speech, the entire audience of 2,500 delegates gave him a standing ovation. When things quietened down, Jones told them: 'I can never forget the debt under which we are placed for help given us at a very critical period at home' (Cope 121). He was awarded the Distinguished Service Medal, the highest honour a foreigner can receive. President Woodrow Wilson

[241] Major-General William Crawford Gorgas, Director of American Army Services.

personally approved the award. The citation read: 'for exceptionally meritorious and distinguished services…[Sir Robert Jones] placed at the disposal of the Medical Service of the American Expeditionary Forces his eminent talents and broad experience in standardizing methods of treatment of the sick and wounded…' (Cope 122).

In 1917, Jones' work was given formal recognition when he was knighted. Lord Derby, the [British] Minister of War, wrote to him, 'So very delighted to see the honour conferred upon you. Nobody has done more distinguished service during the war than you have, and there is nobody to whom the honour will appeal more than to our wounded soldiers, as it is to your skill so many of them are indebted for their recovery' (W 225).

A young doctor serving at the front sent Jones a letter in June, congratulating him. He had worked as Jones' house surgeon at the Royal Southern Hospital in Liverpool from autumn 1913. His name, Noel Chavasse, appears at the bottom of some of the surviving surgical lists.

Noel Chavasse, son of the then Bishop of Liverpool, is one of only three men in the medal's history to have been awarded the Victoria Cross twice; the medal first presented to Crimean veterans the day before Robert Jones' birth in June 1857.

> I should like to help to swell…the flood of sincere and respectful congratulations that will deluge you just now. I was so delighted to see the honour that ought to have come years ago conferred upon you.
>
> It was also very delightful to see in The Times that your notice was by far the warmest and most eulogistic of all the Knights. In fact the usual cold & formal notice became almost effusive.
>
> I now glow with reflected glory to think that I was once your house surgeon and shall ever be your disciple and it was good to see it publickly statated [sic] that you were "universally acknowledged to be the greatest orthpaedic surgeon in Britain".

> I thank you very much for your kindness to me when I was your pupil and am very grateful for the lessons you taught me and the rules laid down by you which have been of tremendous service out here.
>
> Every aid post now has Thomas's splints in stock. But I have been carrying one about on my Medical Cart for the last two years. I hope we shall be able to save more fractured thighs.

Chavasse was mortally wounded during the third Battle of Ypres, known as Passchaendale. He was sent to Casualty Clearing Station No 32 at Brandhoek, which specialised in treating abdominal wounds. He was operated on and regained consciousness. Sister Ida Leedam, with whom he and Jones had worked at the Royal Southern, nursed him. He asked her to tell his fiancée, Gladys, duty had called and he had answered. He died peacefully at 1 p.m. on Saturday August 4th, 1917, aged thirty-three.[242]

Early in September, Lord Derby wrote to Noel's father, the Bishop of Liverpool, telling him that he had recommended Noel for a second Victoria Cross.[243] Writing in response to his letter of sympathy, the Bishop wrote to Robert Jones, 'Our most dear boy loved and honoured you. He never forgot your unfailing kindness to him, and your life and work were one of the great formative forces of his life'.[244]

Despite his own honours, awards and accolades, Jones' war work went relentlessly on. It was an unceasing round of travel, inspections, training, official

[242] The oldest British soldier to be killed in action was Lt. Henry Webber, aged 67, on the Somme in July 1916. In December 1915, James White was sent home when it was discovered he was 70. The youngest soldier killed in action was Private John Condon. He died on 24th May, 1915, aged just 14.
[243] In a poll conducted by BBC Radio Merseyside to find the 100 Greatest Merseysiders, Chavasse was voted number 3 – ahead of Gladstone (9th), Bill Shankly (13th) and Red Rum (15th). Lennon and McCartney came in at number 2. The comedian Ken Dodd was voted number 1.
[244] The original correspondence is in the SRJ archive at the LMI.

letter writing and lobbying, demonstrations, medical writing, and surgery. 'He was above the tyranny of fatigue' (*BJS* April 1933). He seemed to relish every moment of it. On August 7th, 1918, Jones left for yet another inspection tour, this time to Edinburgh. His wife, Susannah (Susie), accompanied him to the railway station. Watson records it as 'a happy parting' (228), with a sense that the war was at last coming to its weary end. It was the last time Robert Jones saw her. The following afternoon she died suddenly of a cerebral haemorrhage. In a letter postmarked 7.15 p.m. 12 Aug 1918, he wrote to his friend Naughton Dunn: 'Now that the separation has come, I constantly feel how inadequate were my efforts to give her all the happiness I might have done'.

Susie was a practical and intelligent woman, apparently content with supporting her husband's career. They seem to have enjoyed a good relationship, and those who knew them agreed on their devotion to each other. A letter to her from Harold Stiles dated June 4th 1917 says, '…all his great success is due to you for you have made his home such a happy one, and have been such a help mate to him in every way.' She presided over 'quiet lunches'[245] of a dozen or more British and foreign medical men, and arranged social events first at Nelson Street and later at Belvidere Road, where surgeons and physicians mingled with politicians, actors, authors, lawyers and artists.

She adored her son, Arthur, who had been away at the front for most of the war. Whilst her husband was fully occupied with his war work, she was increasingly weighed down with the deadly slowness of life for those at home, waiting, waiting for news, and dreading *that* news: the knock at the door, the brown envelope in the

[245] *BMJ* January 1933. John Lynn-Thomas

telegraph boy's young hand.[246] 'War, to the average woman, brings a sense of utter impotence' (Billington 7). Weighed down by her own safety, she had to endure the 'braggart attitudes' and 'tinsel platitudes'[247] of so many who voiced their opinions on the home front.

At her funeral, the minister at Sefton Park Presbyterian Church in Liverpool commented on her vivacity, fortitude, grace and joy.

Agnes Hunt, who worked closely with Robert Jones at Baschurch, made this observation:

> Once at home Robert Jones left all care behind and became the eternal boy, up to any mischief. Lady Jones told me that in a weak moment she once complained to him that since leaving Nelson Street and moving to Belvidere Road, she saw very little of him. At once Bob said that that must and should be altered, and that from that night onwards she should see as much of him as she liked. Poor Lady Jones told me that the following day, which was Sunday, was the most awful day she ever spent. She was never left alone for one minute, if she went to the kitchen he went too, or if she wished to put on her hat or change her shoes he was there. Finally when Monday morning came, and she could see no signs of her tormentor starting for Nelson Street, she gave in and told him that unless he returned to work at once she would either murder him or get herself admitted to the nearest Lunatic Asylum. They were a most delightful and devoted couple. Lady Jones' death during the war was a terrible grief to Sir Robert, and I do not think he was ever quite the same afterwards, he missed his beloved playmate so terribly (Liverpool Review 85).

Jones' letter to Naughton Dunn lets us glimpse the depth of his despair:

My Dear Friend

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[246] Mrs Chavasse would have received two – Noel was not her only loss. Her youngest son, Aidan, went missing on July 1st 1917. He is one of those listed on the Menin Gate.
[247] Ruth Comfort Mitchell. 'He Went For a Soldier'. Ed. Catherine Reilly. *Scars Upon My Heart.* London: Virago, 1981.

> Will you please convey my heartfelt gratitude to the friends who sent me the beautiful wreath. I was deeply touched. You know the loss I have suffered and the darkness and desolation which surround me. I must try to feel that all may be for the best, but I have lost the most priceless treasure that God ever gave to man -

But his letters to his daughter, Hilda, paint a different picture. In September 1918, just a month after Susannah's unexpected death, Jones was persuaded to visit the Italian front and the British Red Cross units based there. In a long and vivid letter home to Hilda, he reports it as 'thrilling and delightful' (W 204), like a *Boys' Own* adventure, cheerfully telling her how close he came to the front line, how he had to remove his hat because of the danger of sniper fire, and of an incident with an Italian Colonel and a hand grenade:

> He then seized hold of a hand grenade, undid it and flung it down towards the Austrians. It exploded in about five seconds. He then took another and flung it – it was a dud. He then took a third in his hand, and after undoing the connection, turned round in foreign fashion asking why the devil the other had not exploded, brandishing the live implement in his hand. I had a real fear that he would forget to throw it. Just in time he flung it and in literally two seconds it exploded. He then hurried back and sat beside me – roaring with laughter, saying – 'That will provoke the swine.' And sure enough machine-gun fire was directed towards us. The whole scene was a curious blend of comedy and tragedy. It was like poking a caged lion with an umbrella (W 203).

The letter also demonstrates Jones' interest in food. He quotes a menu in Italian eaten while 'the guns roared and reverberated in the valleys… [and] shell[s] burst less than a hundred yards from us' (ibid. 202). He says it seemed odd to eat under fire, but he collected a piece of shrapnel as a souvenir. He tells Hilda of 'a band of really heroic young men who were crocks from the military point of view, but who constantly rescued people from the firing line' (ibid. 201). One of them had been a noted climber, but 'had had his leg

amputated above his knee' (ibid.). Another was 'a young Quaker [who] had the heart of a lion, and would have received the Victoria Cross had he been in the Army' (ibid. 202).

Coming so soon after Susie's death, it is odd and surprising to read such boyish enthusiasm. The work was required of him, but it may also have been welcome displacement for his grief. His letter could have been intended to reassure his daughter that he was alright, or provide her with entertainment and distraction from her own grief.

On his way home through France, he wrote again to Hilda. It tells of a day spent with her brother, Arthur. It seems Jones had pulled some strings and had Arthur pulled out of the frontline trenches. Their only privacy was inside a car, where they sat together for the afternoon. What they discussed is not recorded.

Arthur returned from the war physically unmarked. But he had become an alcoholic**.** Pre-war it was said that he was destined for a glittering career in the law – he had already been made a King's Counsel. Post-war, he was a small town circuit judge.[248] Astonishingly, his daughter, an only child, said that she was unaware of his alcoholism until after his death – from throat cancer in 1953. She remembered that throughout her life, every so often he would go away by himself on a holiday. She discovered later that these solo 'holidays' were trips to a sanitorium to be treated for his addiction. Reasons for alcoholism are complex, but is a reasonable supposition that the war was a contributory factor.

For Robert Jones, the joy everyone felt at the end of the war would have been tempered by the loss of his wife and the awful effect the conflict had had on his son, and it cannot have been easy for Arthur, readjusting to civilian life, being the son of such an honoured, revered and successful father.

[248] He worked for the Ministry of Food during World War II.

'Armistice stopped the guns; for the surgeons there was no armistice'.[249]

A section of Sir Douglas Haig's final dispatch of the war, 21st March 1919, speaks of the terrible destruction of men as 'the price to be paid for our victory'.[250] Although he was referring directly to the death toll, the words would have had particular poignancy for those, like Jones, whose sons came home from the war with invisible wounds.

Twenty-one million people, combatants and civilians, died during the war. 9 million of these were military casualties: '9,000,000 dead young men equal 1,350,000,000 pounds of bone and flesh, 27,900,000 pounds of brain matter, 11,250,000 gallons of blood, 414,000,000 years of life that will never be lived, and 22,500,000 children who will never be born'.[251]

The terrible damage wrought by the Great War was ameliorated by the work of Robert Jones and his teams. His vision, energy, and pragmatism saved, and improved the quality of, lives and limbs.

These words, spoken at the tomb of the unknown soldier in 1993, sum up the contribution made by Jones and his colleagues:

> …out of the war came…a lesson about ordinary people – and the lesson was that they were not ordinary. On all sides they were the heroes of that war; not the generals and the politicians but the soldiers and sailors and nurses – those who

[249] www.HarveyCushing/JohnHayWhitneyMedicalLibrary.YaleUni.SchofMed accessed 04/06/09.
[250] www.firstworldwar.com/source/haiglastdespatch.htm
[251] www.english.emory.edu after Dalton Trumbo, who uses this equation for the introduction of the 1970 republication of his 1939 novel *Johnny Got His Gun*, claiming 'numbers have dehumanized us'.

> taught us to endure hardship, to show courage, to be bold as well as resilient, to believe in ourselves, to stick together.[252]

Robert Jones worked to ensure that wounded men were treated appropriately and competently. His emphasis on rehabilitation enabled them to find new skills so they had meaningful futures. The telegram sent by George V and Queen Mary at the time of Jones' death fifteen years after the Great War had ended, focused on his war work, perhaps his greatest achievement. They too understood that the people who made sacrifices during those awful years were far from ordinary, and yet Jones' legacy was that he restored to them the possibility of leading ordinary lives.

[252] Written by Don Watson for the Australian Prime Minister, Paul Keating. Full text available on www.awm.gov.au/commemoration/keating.asp

VERTEBRAE

The toe bone connected to the heel bone,

The heel bone connected to the foot bone,

The foot bone connected to the leg bone,

The leg bone connected to the knee bone,

The knee bone connected to the thigh bone,

The thigh bone connected to the back bone,

The back bone connected to the neck bone,

The neck bone connected to the head bone,

Oh, hear the word of the Lord!

Dem bones, dem bones gonna walk aroun'

Dem bones, dem bones, gonna walk aroun'

Dem bones, dem bones, gonna walk aroun'

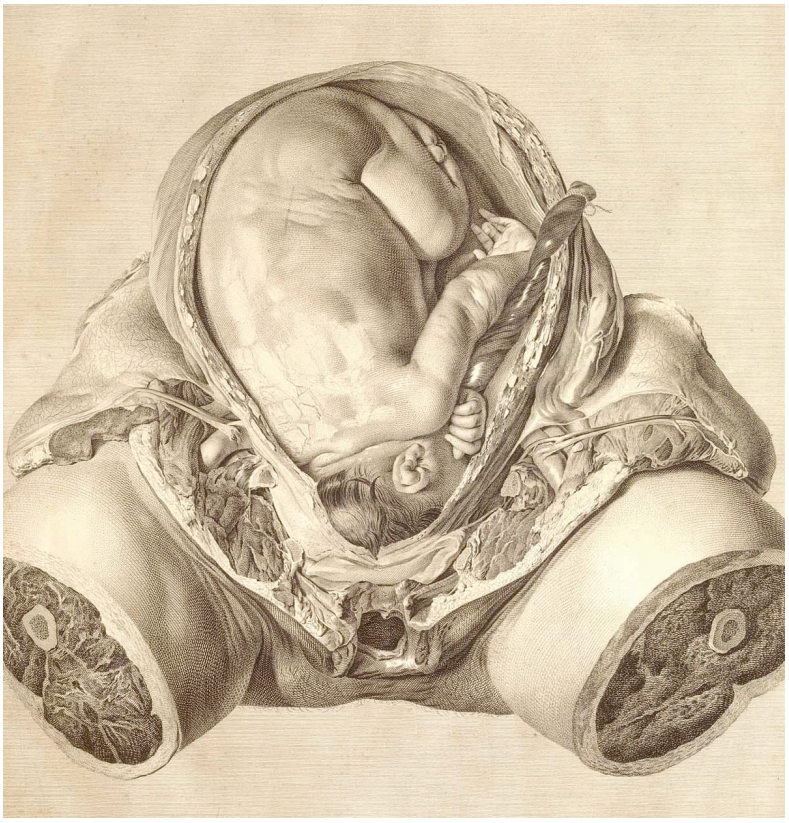
Oh, hear the word of the Lord.

Anon.

In the history of medicine, the backbone of what we know comes from dead people. Galen, the physician whose theories dominated Western medical thinking and practice for over a millennium, was hampered because Roman law forbade dissection of human corpses, so his investigation of pigs, apes and other animals inevitably led to some mistaken ideas about how human beings worked. Vesalius corrected some of Galen's errors in the mid-sixteenth century, when an interested judge made the bodies of executed criminals available for dissection.

But it was arguably, William Harvey's work on blood circulation that injected science into medicine. Following Harvey, anatomists like William and John Hunter supported their teaching with anatomical and pathological specimens collected from investigations into how the physiology of body organs was disturbed by disease. Thus, in the years leading up to Jones' apprenticeship and training, 'Clinical medicine emerged as clinical signs were associated with post mortem findings' (Silvester). Dr John Ridlon,[253] an orthopaedic surgeon from Chicago, and close personal friend of Robert Jones and Hugh Owen Thomas, said: 'The art of medicine is to observe, to correlate those observations, to reason logically to conclusions that must finally become the principles of practice…substantiated by the slow but veracious verdict of Experience and Time' (Watson's *Life of Hugh Owen Thomas* 69-70).

[253] John Ridlon, 1852-1936, was a friend and colleague of Robert Jones. Jones sent him cases of whisky during prohibition.



Anatomy of the Human Gravid Uterus: the work of William Hunter, drawn by Jan van Riemsdyk in 1774. The dissecting room windows are reflected on the baby's back.

'Slow' maybe, but the question remains, why did it take until the aftermath of the Great War for the orthopaedics Jones made his specialty to become an accepted and respectable branch of British medicine? Was he just the right man, in the right place, at the right time?

The complex answer begins simply, with Hugh Owen Thomas' background as the son of a bonesetter.[254] This country craft had a profound influence, not just on Thomas' practices, but also his nephew's. In part their work was a conscious reaction against the unscientific nature of bonesetting, and its accompanying reputation as quackery.

[254] It is thought the Thomas boys may have come from a family of 'Algebristas' – Spanish bonesetters who enjoyed Royal recognition. Philip 11 commissioned his own physician, Luis Mercado, to prepare an illustrated manual based on the teaching of Hippocrates, for the Algebristas or hueseros (loosely translated as folk chiropractors). The Spanish translation offered for Amy Tan's novel, *The Bonesetter's Daughter,* is 'curandero', which means quack or charlatan.

Neolithic skeletons have been found with amputated stumps – the earliest evidence we have of one person's intervention in another's injury. From the ancient cultures of South America and Egypt, through the biblical 'laying on of hands', to Hippocrates' description of his contemporaries tying patients with spinal injuries to a ladder, turning them upside down and giving them a good shake (early traction!), theories without much recognisable scientific knowledge or understanding of anatomy have evolved, what seem to us now, some rather outlandish treatments. Even after Galen had correctly described the anatomy of the spinal column in the first century A.D., and later Vesalius (1514-1564) had outlined the anatomy of the entire human body, many unorthodox and eccentric manipulators offered their services to the public. In the eighteenth century, for example, 'crazy' Sally Mapp, who came from a long line of bonesetters, charged 20 guineas[255] a day from her rich and powerful patients.[256] Joshua 'Spot' Ward (so named for the birthmark on his face) was another infamous practitioner whose hands were reputed to convey magnetic healing powers.

Sally Mapp by George Cruikshank

[255] The guinea was a gold coin first minted during the reign of Charles II. Originally worth £1 (20 shillings), fluctuating gold prices changed its value until it was fixed at 21s (£1.05) in 1717. It retained connotations of class: professional fees were often quoted in guineas. Lawyers would keep the whole pounds; their clerks would pick up the shillings. The word survives in the names of two classic horse races.

[256] These included Sir Hans Sloane. Sally Mapp hobnobbed with the wealthy and powerful at the Grecian Coffee House just off Fleet Street, where she also treated some of her patients (often gratis). She drove a magnificent coach and four, and to put her fee in perspective, a good inn dinner cost just 6d (2½p).

Bonesetters have always used massage and manipulation. Bonesetting was the original meaning of the Arabic word algebra or al-jabr – the reunion of broken parts. In Ancient Babylon, healers used touch and stroking in their rituals. There are scrolls from Ancient Egypt that describe treatments for dislocation and fractures. In the second century, Galen reported that Amazonian women deliberately dislocated the hips of some male children so that they would undertake work the able-bodied shunned. Cortez saw the Aztecs manipulating joints in sixteenth century Mexico. In nineteenth century Czechoslovakia small bears were trained to walk up and down people's spines. Some bonesetters, like Sally Mapp, were celebrated and became extremely wealthy, but there are conflicting reports of the success of their fracture treatment. There is no doubt that many manipulations were effective, possibly in easing stiffness from adhesions, but even at best many treatments were based on ignorance, and at worst some bonesetters, or 'rubbers',[257] were quacks and charlatans, making significant profit out of patients' misery and misplaced faith.

When he delivered the 1972 Robert Jones Memorial Lecture, Goronwy Thomas (then Consultant Orthopaedic Surgeon at the United Liverpool Hospitals) acknowledged that the best bonesetters had a keen sense of the human form, and 'played an important role in the community, especially in rural districts, for the regular doctors regarded them as essential auxiliaries in a field in which they themselves had little interest and less knowledge' (4).

In the seventeenth and eighteenth centuries physicians and surgeons would often refer their problem patients to bonesetters who, at that time, were considered to be legitimate practitioners. However, most bonesetters differed from their

[257] Treatment by a rubber involved vigorous massage of a troublesome area until, the claim was, the bones had turned to jelly and could then be reformed by the rubber's dexterity.

orthodox colleagues in that, secretive about their skills, they were ‘content, like moles, to work in the dark without trying to discover why the means they employed sometimes succeeded and at other times failed’ (Keith 307). In his 1884 publication *The Art of the Bonesetter*, G. Matthews Bennett ‘jealously guards the secrets of his methods, intimating that it is a gift which cannot be acquired’ (Heyman 26).

On the other hand, physicians, surgeons and their apprentices became increasingly resolved to share knowledge and understanding. In 1745 they set up the body that eventually became the Royal College of Surgeons of England, to separate themselves from barbers and ‘have done with mystery’ (ibid. 307).

Scientific principles were a long time coming in the history of orthopaedics. It was the slow accumulation of experience, rather than one eureka moment.

In 1871, just two years before Jones began his apprenticeship and training, Wharton Hood wrote a series of articles for *The Lancet* looking into the nature and results of bonesetting. He examines one London bonesetter’s work, saying that the practitioner, Mr. Hutton, is in no doubt that what he does is successful, but Hood suggests the man possesses virtually no anatomical knowledge. It is clear from the tenor of the articles that Hood is inclined to be sympathetic towards Hutton’s work. He does not enter his investigations sharing the animosity many of his professional colleagues felt towards unregistered bonesetters, and he has to conclude that although the science cannot explain it, ‘it is incontestable that a large number of irritable and useless joints have been restored to a natural condition by bone-setters [often] after a long period of unavailing surgical treatment’ (451).

At the start of the nineteenth century, there were still conflicting theories about how infection was spread – the contagion (human contact) versus miasma (contaminated vapours) theories. Treatments were limited, and surgery was often

fatal. Medicines were botanical and mineral – what we now know to be toxic preparations of mercury and arsenic were commonly prescribed. Doctors recommended purging, bleeding, or less dramatically, a change of air. The power of prayer was regularly used. Then as the century progressed, more scientific advances were made. The work of Pasteur and Koch in microbiology and germ theory followed increased magnification in microscopes. Anaesthetics were introduced, making surgery more tolerable. Lister began to publicise his work on antisepsis. The highlights of medical developments directly influencing Robert Jones' life and career include:

1867 Lister publishes *Antiseptic Principles of the Practice of Surgery*

1879 The first cholera vaccine used

1882 Koch publishes on his discovery of the tubercle bacillus

1896 Jones takes the first diagnostic x-ray in Britain

1901 Karl Landsteiner discovers the existence of different blood types

1906 The existence of vitamins is suggested; deficiencies are linked with scurvy and rickets

1922 The first diabetic patient is treated with insulin

1928 Penicillin is discovered

Nowadays, medical trainees can choose to specialise in various branches of medicine: anything from Aerospace Medicine and Anaesthesiology, through Dermatology (skin) and Otorhinolaryngology (ear, nose, throat, respiratory), to Sports Medicine and Trauma Surgery. The nineteenth century was the era when medical specialties began to emerge, although not without considerable opposition. There are a number of probable reasons for both the specialising and the antipathy.

Coinciding with the unification of medicine following the Medical Registration Act of 1858, science meant that developing interests in smaller areas of the body began to become an effective way of disseminating knowledge. Although a body of physicians and surgeons felt that specialisation would decentralise their power, they could not prevent research clustering round specific organs: obstetrics, psychiatry, and the urinary tract, were all early areas of specialism, and the oldest eye hospital in the world, Moorfields, opened in London in 1805. Developing technologies enabled the manufacture of specialist instrumentation: opthalmoscopes, stethoscopes, and x-ray machines, were all nineteenth century inventions. There is also an economic argument that some practitioners may have developed interests connected with the more lucrative parts of their work.[258]

And there were wars. The historian Courtney Hall proposes that, 'medicine in wartime has a far greater importance than its primary function, that of maintaining a healthy fighting force, would seem to indicate. Since the rate of injury and illness is greater in wartime than in periods of peace, the medical activity is accelerated to a vast degree' (72).

Particularly significant in the development of orthopaedics were publications by Hunter[259] and Liston. Today's military surgeons, like Colonel Mike Stewart, acknowledge Robert Jones as being one of their biggest influences, but John Hunter's treatise on gunshot wounds, published posthumously in 1794, was a previous leap forward in military medicine. Former BOA President Alan S. Malkin says that 'both [Hunter and Robert Jones] achieved success [because] both were

[258] For further exploration of the development of medical specialties, see the research of Rosemary Stevens, and George Weisz.
[259] John Hunter, the anatomist, 1728-93.

caught up when young by a great enthusiasm, and this enthusiasm remained with them to the end'.[260]

The same year as Hunter's treatise was published, Robert Liston, probably the greatest surgeon of his day, was born.[261] Mostly operating prior to anaesthetics, Liston was known, as Jones was, for his skill, innovation and speed – he is reputed to have been able to complete an amputation from first cut to final stitch in the remarkable time of just 28 seconds, working at that speed not just to show off, but to lessen patient trauma in those pre-anaesthetic days, although it was Liston who performed the first surgery using anaesthetic.[262] He invented locking forceps, and a femoral splint still in use today. Unlike Jones, he was a controversial figure and offended many colleagues with his showmanship and arrogance. His publication on 21st December 1846 gave an account of the first successful amputation at the thigh and caused a sensation among the medical community.

So, well before Robert Jones fathered orthopaedics as a discrete medical specialty, there were outstanding practitioners in the field, whether trained professional or unqualified bonesetter. And yet, orthopaedics appears to have been accepted in America before Britain. Why?

[260] *JBJS* Centenary edition.
[261] 1794-1847.
[262] Speed can lead to mistakes. Legend has it that Liston, who cut notches into the handle of his favourite amputation knife, once performed a two and a half minute amputation which resulted in a 300% mortality: he removed the patients testicles by mistake, and accidentally cut off his assistant's fingers – both men later died from gangrene and septicaemia. A spectator is also rumoured to have dropped dead from fright when he got too close and Liston sliced through his coat tails.

When the Crimean War broke out in 1854, three years before Robert Jones was born, the treatment of wounded soldiers was often crude and limited, despite the best efforts of army and navy surgeons. In times of peace between military campaigns any lessons learned about medical treatment were quickly forgotten due to financial cutbacks, lack of co-ordination, and a paucity of facilities dedicated to the training of medical personnel in the treatment of war injuries. Most regiments had their own surgeon – just the one – with his own case of instruments. He was expected to only treat the wounded from his own regiment. There was little assistance. An observer during the Peninsular Campaign (1808-1814) recorded:

> I saw two hundred soldiers waiting to have their limbs amputated…The smell from the gun-shot wounds was dreadful…There they sat waiting for their turn to be carried to the amputating table. A little further on, in an inner court, were the surgeons. They were stripped to their shirts and bloody: a number of doors placed on barrels, served as temporary operating tables: to the right and left were arms and legs flung here and there without distinction, and the ground was dyed with blood (Shepherd 54).

Forty years on, accounts of field surgery during the Crimean War demonstrate that few, if any, lessons had been learned. There were inadequate numbers of medical personnel and those who existed were hampered by lack of specific training in treating men wounded in war. There were no supply or transport infrastructures, no ambulance service, no plans for setting up hospitals to receive and treat the wounded, and no preparation for feeding large numbers of wounded men. Work on germ theory by Pasteur and Koch, and antisepsis by Lister, had not penetrated the hard heads of military medical thinking. Indeed, statistics for mortality rates during war show that ‘death from disease regularly outnumbered deaths from wounds in action, by a ratio of ten to one’ (Shepherd 9).

In America prior to the Civil War (1861-65) there were only forty military beds, at Fort Leavenworth. In this area, at least, Britain fared better. In 1818, Fort Pitt had

two hundred beds, and in addition there were two small hospitals in Ireland and one more situated on the Isle of Wight. U.S. statistics published in the meticulous six volume *Medical and Surgical History of the War of the Rebellion after the Civil War* state that:

> …in the armies of the North, 4 persons died of sickness for every 1 killed in battle. Deaths from disease were twice as large as those from every other known cause. The total mortality from diarrhea [sic] and dysentery alone was 57,265 – 13,000 more than the number of men killed in battle…not until World War 1 were medical men able to keep fatalities from disease below those from weapons of war (Hall 84).

Perhaps these numbers are a clue as to why few lessons appear to have been applied to war thinking in orthopaedic terms since so much statistical evidence points to death from disease rather than as a direct result of injuries, particularly among British soldiers.

In medical history terms it could be argued these deaths were both inevitable and unavoidable for several reasons: the general health conditions of impoverished, lower class soldiers, overcrowding in camps, lack of understanding of how disease spread, poor diet and sanitary conditions, inadequate clothing and blankets, and some extreme weather conditions. But why did the Crimean War not result in a permanently beneficial effect on either military or civilian medicine in Britain, while in America, the Civil War apparently did?

The answer, as might be expected, is complex. There are several contributory factors, most notable being geography, the Press, money, training, and class.

The Crimean peninsula, now in southern Ukraine, is over fifteen hundred miles from British soil. The American Civil War was obviously fought across its own soil. Despite reporting, distance can render soldiers and battles invisible, whereas

proximity makes them impossible to ignore. In excess of three million men took part in the American Civil War. It:

> …involved not one but two governments and hence two war organizations…Thus the medical experience of Americans was much more intensive than would have been the case in a war between the United States and a foreign power…For the medical men of both the Union and Confederate medical departments, the dreadful havoc of the War furnished pathological and surgical data of immense importance (Hall 72).

That is not to say that all influential or decision-making Americans, from the war's onset, favoured and supported medical matters. Indeed Secretary of War for the Union, Stanton, viewed medical issues as very much of secondary importance to military ones. However, despite some disagreements about priorities, both the Union and the Confederacy had at their disposal an existing infrastructure of roads, railroads and waterways. This facilitated the movement of men and materiel and the same lines could be used to evacuate the wounded away from battle-fronts. Such an infrastructure did not exist in the Crimea, where a thousand men died before the fighting even began. According to John Shepherd, at the first major engagement of the Crimean War, the Battle of Alma (1854), 'well staffed and well equipped aid-posts and brigade dressing stations were almost non-existent. There was no effective organisation of stretcher-bearers or medical transport' (126). Eyewitness accounts are pitiful. Shepherd quotes a report from *The Medical Times and Gazette* of 1854, which records the wounded were spread for approximately two miles over hilly terrain and were not just at the mercy of their wounds and the luck of being found and moved by a few hard pressed stretcher bearers, but the conflicting orders of officers added to their misery. Shepherd quotes an unidentified soldier writing in *The Lancet* in 1854: 'Never shall I forget the night of 20 September. We had to lie

among the dead and wounded all night and to hear the cries it would melt a heart of stone: some crying for their comrades to shoot them dead' (127).

By the end of that first year plans were made to construct a railway line to assist with transportation to and from Balaclava. It was finally begun in February 1855 and quickly completed. But even on this point senior officers were divided, some thinking that the time and money would have been better spent on road construction. While they squabbled, neither were built. Fighting the landscape as well as the enemy never makes for good survival odds.

We have seen that a railway infrastructure was the key to the civilian medical service Robert Jones co-ordinated in the 1890s, but although by the ends of the Crimean conflict a few enlightened men had made changes to the organisation of transporting and treating the wounded, the British Army, despite their own report, did not apply the knowledge and experience the war had helped them gain. This was due to a number of factors. Experienced medical officers were quickly dispersed to other conflicts around the globe. The War Office did commission two fully equipped hospital ships, but was not interested in spending money on co-ordinating contingency plans for distant wars, leaving these instead to officers on the ground. Much of the report, accurately if unpithily titled *Medical and Surgical History of the British Army which served in Turkey and the Crimea during the War against Russia in the years 1854 – 1855 – 1856,* published in 1858, inevitably focused rather on the statistically significant casualties of disease, rather than collating surgeons' experiences. Shepherd concludes:

> Sadly, it must be said that, in subsequent campaigns, even up to the two World Wars, some of the old errors were repeated…In times of peace, expenditure is inevitably cut and the medical services suffer perhaps more than most. At the end of a war, many medical officers are retired and their experience is lost to the services. Hence, at the start of both the First and Second World Wars, the hard earned experience of previous

> campaigns was often forgotten and lessons had to be painfully relearned. This applied particularly to the techniques of dealing with tissue-destructive wounds (620).

This dispersal of experienced doctors by the British War Office, whether for financial or military reasons, prevented the consultation and collaboration possible after the end of the Civil War in America, and was a battle Jones fought all over again throughout the years of the Great War.

Another feature of both the Crimean and American Civil conflicts was the way they were reported to the civilian public. These were the first wars to be photo-documented, but the ways these pictures were used differed considerably. Whilst the influential writing of William Russell in *The Times* is well known, particularly for the influence it had on Florence Nightingale, the role of the English photographer Roger Fenton is less celebrated. He was not sent to the Crimea to make an objective record. On the contrary, he was specifically sent for propaganda purposes, to make the campaign look positive and less chaotic than was being reported to members of the public at home. He was also commissioned to take flattering portraits of serving officers. He had to please his royal sponsor, the Prince Consort, and the British Government provided Fenton's transport costs and paid for his travelling dark room, so he needed to keep them happy too. The Government was all too aware of the impact of unfavourable reports in the Press, and wished to counter these with images showing the campaign in a more favourable light. One of Fenton's pictures stands out eloquently from the portraits. It is called 'The Valley of the Shadow of Death', after the line in Tennyson's poem, and purports to show the narrow gully down which the Light Brigade had so valiantly yet so foolishly ridden. There are no wounded or dying men depicted. Instead the image is hauntingly

empty except for the debris of hundreds of cannon balls scattered across the bleak landscape, standing in for the human casualties.[263]

On the other hand, in America, Matthew Brady organised a group of photographers to record battlefields, and his pictures shocked the American public because they were the first to show corpses. In 1862 he mounted an exhibition of photographs from Antietam. *The New York Times* said Brady had 'brought home to us the terrible reality and earnestness of war'. As well as Brady, the American Sanitary Commission took many photographs of injured men, providing a useful record of war wounds and their treatment. These pictures were deliberate attempts to record and document medical procedures. By the time Jones was publishing his work, it was increasingly standard practice to illustrate cases with photographs rather than drawings, though his publications are illustrated with both.

[263] There is some debate about the accuracy of this picture – in fact two versions of it exist, one with, one without the cannon balls on the road in the right of the photograph. There are various theories as to why that might be. It may not even be the same valley as the one charged down by the Light Brigade. However, it is still a potent image.

The other factor in Britain's conspicuous lack of lesson-learning is class. Scotland and Ireland had produced many of the medical officers who served in the Crimea. The majority of senior British Army Officers resented being advised by Scots and Irish, some of whom were not military men, but had joined the forces in order to use their skills. Scotland has always been pre-eminent in the training of doctors – both Hugh Owen Thomas and his nephew Robert Jones obtained their Fellowship of the Edinburgh College of Surgeons. But while Scottish doctors may have been well trained and wise, their efforts to improve treatment for common soldiers were stonewalled. Ordinary soldiers were, as the cliché goes, 'cannon fodder', and although attitudes towards their general treatment did improve during the Crimean conflict, it would be many years before entrenched class divisions became shallower and less obvious. In the Great War, for example, officers were still expected to be public school educated and to grow moustaches as an extra mark of office; not a problem for Robert Jones, who wore a moustache all his life, but a terrible problem for his fair haired son who struggled with this badge of office for the whole war.

So, how does all of that help us to understand why Robert Jones is credited with being the father of orthopaedics?

By 1908, Robert Jones was a busy and successful surgeon. He was in post at Liverpool's Royal Southern Hospital, held his free clinics at Nelson Street on Sundays, visited Agnes Hunt's open air Hospital for Sick Children in Baschurch at least once a month, was on the consultancy list at Chailey, home to disabled

children in Sussex, was surgeon at Heswall Children's Hospital on the Wirral, and was overseeing the growing national scheme for crippled children – the Lord Mayor Treloar Hospital in Alton, Hampshire opened that year. He hosted visiting orthopaedic surgeons from all over the world to demonstrate his methods in Liverpool. A year earlier, one of the Mayo brothers, William,[264] had visited from the United States, and left this detailed account of Jones at work:

> Mr. Jones' clinic is most extraordinary, and is very largely the surgery of deformities…[His] working organisation is very good indeed. His offices occupy a large house, and include a staff of about a dozen people. Here he sees every morning from thirty to forty patients. The general examinations, the taking of histories, etc., are done by another person. A great many persons are operated upon during the course of the day. One morning I saw him reduce two dislocations of the shoulder, set some fractures, and operate on several cases of clubfoot in babies. In the afternoon, five days in the week, he operates on private patients in nursing homes (a small hospital conducted by private enterprise, usually by several nurses). Sunday is his free clinic day, when fully two or three hundred patients are examined free of charge. Many of them are sent into the Southern Hospital for his public clinic, which is given, at the present time, Wednesday and Saturday. He operates on that day upon from fifteen to thirty cases...All operations are done under ether anaesthesia. The asepsis is most painstaking and thorough.[265] He is expeditious, yet neglects not the smallest detail, and his wonderful experience enables him to do wizard-like operations with a precision which is startling. So unassuming and modest is the man that he is, I believe, entirely unaware of his great ability...I must place Mr. Robert Jones as one of the greatest surgeons it has been my good fortune to meet. He belongs to that type of specialist who has been, and continues to be, a general surgeon, but has been forced by the large amount of work to become a specialist, and so is working almost exclusively along orthopaedic lines. (W 128-9)

Less formally, Mayo recalled lively lunchtimes in the Nelson Street consulting rooms, where he discovered the blacksmith employed since Thomas' time to make the splints, was mute, and 'I rather maliciously wondered if he had been chosen' so

[264] William (1861-1939) and Charles (1865-1939) Mayo were outstanding American surgeons who, along with their father, founded the Mayo Clinic in Rochester, Minnesota – one of the nation's first efforts at a group practice of medicine ('…an experiment in co-operative individualism' www.mayoclinic.org). Their father (an immigrant from Salford) served during the Civil War.

[265] Jones insisted on boots having canvas coverings, 'rightly maintaining that the average medical man would carry in more dust on his boots than he would on his clothes' (W 121).

he could guard the secrets of the Thomas splint. As we have seen, the Great War years made this 'secret' very public.

Jones' previous biographer, Frederick Watson, summarises this period of the early twentieth century as 'the consolidation of orthopaedic surgery in the hands of Robert Jones' (125), particularly in Liverpool's Royal Southern Hospital, where, 'Between 1889 and the War it was within its operating theatre that the principles and methods of Nelson Street converted surgical hostility into admiration for the genius of the man and the great future of his work' (ibid.).[266] Experienced, discriminating visitors, some of them sceptical as to his methods, came from all over the world to observe him at work, but 'Under the careful scrutiny of the most critical British and Foreign operators [Jones] established and confirmed his position' (ibid.).

However, outside the medical profession, the term 'orthopaedics' was not understood. Watson relates that even after the Great War, 'a worthy and extremely well informed person, upon being asked to contribute to an orthopaedic centre, withdrew into himself and said "I have no doubt whatever it is a worthy object, but I prefer to help British hospitals"' (103).

Leslie Klenerman suggests that 'orthopaedic surgery began [on the European continent] with orthopaedic medicine' (2). In 1741, it was the French physician Nicholas Andry's[267] contention that deformities in children could be treated, prevented, even cured, with specific exercises. Then there was Venel of Geneva in the 1780s, whose plaster casts made on a patient's admission to his orthopaedic institute provided a visual record of his deformities, and Louis Stromeyer, 1804-

[266] To orthopaedic surgeons worldwide, 11 Nelson Street is as famous an address as 10 Downing Street or 2000 Pennsylvania Avenue.

[267] Andry, 1658-1743, coined the term in 1741. A physician (he was most emphatically *not* a surgeon, believing them to be 'sous medecins'), he also gave us the image of the sapling with a crooked trunk tied to a stake to straighten it. Andry's tree is still the international emblem of orthopaedics. The potent image of a tree is also common in Shaman healing, with roots connecting it to the world beneath, a trunk in the middle, human occupied world, and a top reaching to the upper world.

1876, who pioneered Achilles tendon surgery and maxillofacial work, and had a device used in the treatment of fractured cheekbones named after him. Stromeyer is responsible for the adoption of the term orthopaedics, used to describe his operation for club foot, and 'as his methods rapidly spread the adjective "orthopaedics" became synonymous with surgical treatment of deformity' (Klenerman 3).

Perhaps Jones' epithet should be modified to father of *British* orthopaedics? Writing in the *JBJS* Centenary edition, Jones' one time student, Reginald Watson-Jones, claimed Robert Jones created and established 'the principles, science and art of orthopaedic surgery', and he was also co-founder of both the British Orthopaedic Society in 1894 and the later more permanent British Orthopaedic Association in 1918. Establishing the discipline's principles and its professional organisations might be enough to verify the paternity claim. But there are other contenders for the British title too.

The first medically trained British orthopaedic specialist was probably Robert Chessher, 1750-1831, whose life contains many parallels with Jones'. Like Jones, Chessher was based outside London, in his case in Hinckley, Leicestershire. Like Jones, he was apprenticed to a family member – in Chessher's case, his stepfather, in Jones', his uncle. Like Jones, early on in his career, Chessher worked as a general practitioner, but then began to limit his practice to orthopaedics, his particular focus being curvature of the spine and limb deformities. The same reverent, religious language pops up in writing about both men: 'During Chessher's

lifetime Hinckley must have been a Mecca for all…[the] suffering' (Valentin 309), and '11 Nelson Street – the house which became a Mecca for surgeons from all over the world' (Watson-Jones 181).[268]

Like the workplace Jones inherited from his uncle, Liverpool's 11 Nelson Street, Chessher had a workshop in his own house and 'every appliance was individually designed and made under his personal supervision' (Valentin 309).

However, a letter from 1810, written by the father of one of Chessher's child patients:

> …deplores the fact that only rich patients could be treated, as the production of apparatus and splints was very expensive. "Humanity must, therefore, regret the want of a proper establishment, from which the poor might often be restored to the use of their limbs, become happy in themselves, and useful members of society" (ibid.).

Jones, on the other hand, continued Thomas' practice of treating the poor of Liverpool in free clinics on Sundays, and only charging what his patients could afford at other times. He frequently paid for treatments out of his own pocket, rather than see a patient denied care. A letter about Jones, written in 1911 is addressed to a mother who has been seeking a surgeon for her child. It recommends Jones and reassures her, 'You need not worry about expense, as like other noble minded men he loves his work first and the remuneration is second in importance. Just tell him frankly your situation and he will arrange matters accordingly in one of his institutions'.

[268] Sir Reginald Watson-Jones' contribution in the *JBJS* Centenary edition.

Chessher also left no published work, although there are surviving illustrations of his splints, some by no less an artist than Landseer.[269] This lack of circulation meant his reputation remained largely confined to his own locality, whereas Jones' list of publications is long (see Appendix), and includes seminal texts on orthopaedic treatment. During the Great War, Jones published a couple of little primers that surgeons at the front carried about with them, and he was working with Harry Platt on a new edition of his *Orthopaedic Surgery of Injuries* at the time of his death.

Both Robert Chessher and Robert Jones were pioneers. After Jones' death in 1933, the Bishop of Liverpool, making the funeral address, spoke of Jones' pioneer spirit:

> All his life it possessed him. He showed it when in early days he did not disdain to learn from the native skill of unprofessional practitioners. He showed it when he dared to depart from custom and convention and to innovate, when he dared to take risks. He showed it in his teaching…I think [his pupils] must all have owed more to their contact with the man himself than to the knowledge he passed on to them.

He went on to speak of what he thought was the heart of Jones' life, and that was 'his love. He never paraded it. He was the simplest and most modest of philanthropists. You might meet him often and never suspect the motive that ruled his life and work. But the children knew it, and answered it with theirs'; and after the prayers of committal, the choir and congregation sang a hymn 'adapted by some crippled children' (Order of Service), the first verse of which goes:

> Give to cripples' doctors
> Calm and sweet repose:
> With the children's blessing
> May their eyelids close.

[269] Edwin Landseer, 1802-1873, is most famous for his animal paintings – the towering stag known as Monarch of the Glen was painted in 1851 – and the great lion sculptures in Trafalgar Square. Early on he was encouraged to perform dissections so that he fully understood skeletal structure and musculature. He first exhibited at the Royal Academy aged just 13, and is rumoured to have been able to paint with both hands simultaneously.

We have already seen that Chessher was not a philanthropist, particularly in his treatment of children, and on its own, being a pioneer is not enough to merit claims to being the founder of a tradition. A good father provides practical support, mentors his offspring, serves as a role model, contributes to the emotional security and economic stability of his issue, and is protective and supportive. And to be a founder, the way you pave needs to be followed and concreted by others. Many of Chessher's methods were examined closely by his contemporaries and then discarded, although it is fair to say this may have been more because these contemporaries wanted their own treatments adopted rather than there being no clear or lasting evidence of the efficacy of Chessher's.

Chessher did found an Orthopaedic Institute, which seems to have been along Venel of Geneva's lines. However, it closed not long after his death in 1831, and Chessher's biographer,[270] expresses the view that Chessher did not influence William Little when he founded the Infirmary for the Cure of Club Foot and other Contractures in London, only a few years later, in 1838.

So, if Chessher is ruled out of fathering orthopaedics, dying without apparent heirs, who might the other title contenders be?

Overlapping with Chessher is the delightfully named Percivall Pott, 1714-85, who is considered by some to be one of the founders of orthopaedics, although he remained a general surgeon to the end of his life. His reputation is helped by the fact that he was based at St Bartholomew's Hospital in London, rather than anywhere outside the capital. He was the first to demonstrate that environmental carcinogens could provoke cancer, when he correctly diagnosed soot as a cause of scrotal cancer in chimney sweeps. He was an innovative surgeon, moving to

[270] Bruno Valentin.

abolish the widespread practice of cautery, but is probably most famous as providing the eponyms for Potts fracture and Potts disease.

In 1756, he fell from his horse and suffered a severe compound fracture of his tibia, just above his ankle.[271] He needed a stretcher so he sent a servant to buy a door from a nearby construction site, and had himself carried home rather than risk further damage to his broken limb from the jolting of a carriage ride. All the surgeons who attended him recommended amputation. This was often fatal in those days because of shock and sepsis. However, his tutor, Edward Nourse, suggested splinting. This was undertaken, and Potts made a full, if slow, recovery. During his convalescence he began to write, and in 1768 he published *Some Few Remarks upon Fractures and Dislocations,* which was translated into French and Italian and became extremely influential.

Like Robert Jones, Potts embarked on his apprenticeship at the age of fifteen, although he seems to have been a better scholar than Jones, doing very well at his exams. Like Robert Jones, Potts' pleasant personality attracted visitors to watch and work and learn. Both Potts and Jones became involved in medical administration, Jones during the Great War as Inspector of Military Orthopaedics and Potts becoming one of the first Masters of Anatomy in the Company of Surgeons in 1753, eventually becoming an examiner. However, unlike Robert Jones, Potts did not specialise in orthopaedics (he was an expert on hernias).

As Jones, Potts had some eminent pupils, including John Hunter, who wrote the important treatise on gunshot wounds outlined earlier.[272]

Another clear candidate for orthopaedic paternity is William John Little, 1810-94, who Watson, writing in *Civilization and the Cripple*, calls 'the first great apostle of

[271] Reports of the site of the fracture range from femur to ankle. However, all records are agreed that it was a compound fracture. What is now known as the Potts Fracture is a simple fracture of the tibia.
[272] Potts' patients included Samuel Johnson, David Garrick and Thomas Gainsborough.

orthopaedic surgery in England' (13). Like Jones and Potts, he had personal experience of being an orthopaedic patient. He contracted polio as a child, which left him with a crippled foot. In 1836, he was operated on by Stromeyer. The procedure was a complete success, and later he named one of his sons Louis Stromeyer Little. He founded The Infirmary for the Cure of Club Foot and other Contractures in London's Bloomsbury Square in 1838, which became the Royal Orthopaedic Hospital in 1845. There was clearly a need even then for an institution specialising in orthopaedic work. The City Orthopaedic Hospital was founded in 1851 because of long waiting lists for the Royal. And then in 1863, a third hospital – the National Orthopaedic - was built, not long after the Jones family had arrived in London. These three London orthopaedic hospitals merged at the beginning of the twentieth century, becoming what is now the Royal National Orthopaedic Hospital.

Little's publications were seminal, including a report in 1862 concerning spastic paralysis of the lower limbs (known as Little's disease), and the earlier *The Nature and Treatment of Deformities of the Human Frame* in 1853, in which he said, 'Orthopaedy is something better than a mere mechanical art; whilst employing its therapeutic resources…the mind is also interested in other problems' (Klenerman 3).

This identification of problem solving being an important aspect of orthopaedics is also evident in Hugh Owen Thomas, at work at his lathes in Liverpool, and like his nephew sometimes called the father of orthopaedics. It is probably fair to say that Thomas' abrasive attitude towards many colleagues, and the fact that he worked autonomously, keeping himself deliberately distant from the rest of the profession, means he cannot be called 'father'. He needed someone to come after him who could share his principles with a wider audience rather than just those few who made the journey to Liverpool to see his methods for themselves.

There seems to be agreement among historians of orthopaedics that without Robert Jones putting Thomas' principles into practice, they would have died with him in 1891.

Another key figure in the development of orthopaedics was Sir James Paget, 1814-1899. He was, above all, a scientist, and Robert Jones shared many of his characteristics. Both men were prodigious workers, eloquent speakers, and brilliant surgeons, both had a keen sense of fun and could move quite seamlessly from work to play, and both were recognised in their lifetimes with Baronetcies. Paget's name is remembered in the disease of enlarged, deformed bones, most common in men over 40, named for him. But Paget did not specialise only in orthopaedics, nor advocate it so passionately, so perhaps this precludes him from the paternity claim.

The same principle applies to William Macewen, 1848-1924, who pioneered bone graft surgery, but also worked on the brain. He was an innovative surgeon who, like Jones, worked with children, holding a position at the Royal Hospital for Sick Children in Glasgow. He was in fact a colleague of Jones', helping to found the Princess Louise Scottish Hospital for Limbless Sailors and Soldiers in Erskine,[273] near Glasgow, becoming its chief surgeon. Together with engineers and workers from the nearby Clyde shipyards, he designed the Erskine artificial limb,[274] and then trained a team of pattern-makers to manufacture them for the hospital.

Each of these other candidates for founding the discipline did some of the following: had fractures and/or procedures/body parts/diseases/conditions named for

[273] Princess Louise formally opened the hospital on June 6th 1917. One in five veterans were treated there. In the British forces there were upwards of forty-two thousand amputees.

[274] The earliest prosthetic limbs discovered so far are two artificial toes on Egyptian mummies, dated 1295-664 B.C., one made from leather and wood (kept at the RCS until it was destroyed in a WW2 air raid), the other from cartonnage (linen, glue and plaster), and the Roman Capua leg, made of copper and wood, dating back to 300 B.C. Armourers in the C15th and C16th made artificial limbs from iron for soldiers. Wood was used later because it was lighter. Perhaps the most famous wearers of wooden legs are the fictional sailors, Captain Ahab and Long John Silver. The first amputee of the American Civil War, a Confederate soldier named J.E.Hanger, founded what was, for a time, the world's largest artificial limb factory, and the Hanger Group still provides orthotic and prosthetic services.

them as the discoverer or inventor, made extensive contributions to our understanding of the musculo-skeletal structure and how to restore it after damage from accident or disease, passed on their expertise to others through teaching and/or publishing, developed new ideas/practices, founded hospitals, and are remembered through eponymous awards or speeches or dinners. But Robert Jones did not do just some of these things. He did them all. However, he was most insistent that an orthopaedic surgeon should first be a good general surgeon, warning:

> …a thorough knowledge of general surgery should be possessed by any surgeon who practises a special branch. Nothing is more fatal to progress than when from defect of general surgical training a specialist is limited to one view of a subject. When a firm surgical foundation is acquired he can deflect his energies with great advantage to special fields. Unless this be accepted as a cardinal principle, orthopaedic surgery may even yet be reduced to a refuge for any one who is unable to hold his own in any operative procedure which his art requires of him. The orthopaedic surgeon should be governed by sound surgical principles and not become entangled in detail. Function is his goal and he should know, and be able to practise, the best way of obtaining it. The operation means to him only the beginning of his problem, and his most brilliant operative exploit, unless directed to a functional success, should be a reproach (xi).[275]

Jones' own background in Liverpool's Stanley and Royal Southern Hospitals was in general surgery first, despite so much of his earliest work being with his uncle Hugh and thus steeped in the orthopaedic principles he outlines above. Writing in 1902, he recalled being a young surgeon of twenty-eight:

> In 1885, when I was at the Stanley Hospital, there used to be an adult diplegic in a perambulator always at the gates, and on two or three occasions I took him in to try and straighten his contracted limbs. On one occasion I removed about an inch from each of the hamstrings, but he was so mentally deranged that we did not do each other any credit (357).

[275] From the Editor's Preface to *Orthopaedic Surgery of Injuries* Vol. 1.

It is continually striking that although he advocates simplicity and functionality he speaks of the 'art' and 'romance' of surgery and dazzled his students and colleagues with his own extraordinary surgical skills. His ability 'not [to] become entangled in detail' is perhaps one explanation for his prodigiously long operating lists, and the ferocious discipline with which he ran his theatres. It is, however, orthopods' adherence to Jones' insistence that the operation is the beginning of the orthopaedic surgeon's work and not the end, that was another reason for the animosity towards them from their general surgeon colleagues. Patient power is a relatively new concept. The omnipotence of surgeons and physicians in the late Victorian and Edwardian years in which Jones was working was a position many of them cultivated and they deeply resented a view that suggested they shouldn't keep their distance from their patients.

Developing his skills as a general surgeon, Jones made orthopaedics his own specialty. He also campaigned for surgeons to receive the specialist training required to enable them to meet the specific needs of those with orthopaedic injuries. He stressed that treatment to prevent deformities and fully restore function, through repair, reconstruction and/or rehabilitation, by those who lacked the necessary understanding and skills, was unintentionally inflicting further harm on patients. The American surgeon, Philip Wilson, said of him:

> He not only practised orthopaedic surgery; to a large extent he made it. When he entered this field of work it scarcely existed as a specialty and there were only a few practitioners who busied themselves chiefly with mechanical corrective measures by means of braces or plaster-of-Paris…When he left it, it was a respected and flourishing surgical specialty with hundreds of outstanding practitioners…Robert Jones' contribution…was the development of surgical methods to supplement or to replace the mechanical methods when a more certain cure or a better result could be obtained.[276]

[276] *JBJS* centenary edition.

If Wilson is right in his view that by the time Jones died in 1933 orthopaedics 'was a respected and flourishing surgical speciality', then the work he did on the Manchester Ship Canal, building the Heswall children's hospital, and during the Great War, were the most public and eloquent demonstrations of his fatherhood.

So, here is Robert Jones the orthopaedic surgeon. Medicine is imperfect, constantly changing, uncertain, and yet when we must we place ourselves in the hands of fallible humans and assume, hope, trust they can help us. We have little choice but to have faith in their training, confidence and skill, and let them loose with scalpels and drugs, to cut and stitch and mend. Every so often, one of these fallible humans doesn't just make a difference to his patients, but also to his colleagues, to medicine itself. He changes things. Robert Jones was one of those people.

We've looked closely at his professional life, but it's difficult to say for certain who Robert Jones was. It is possible to describe what he did: orthopaedic surgeon and pugilist for instance, but in common with other men of his class and time (1857-1933), he left little that revealed the private man. The next chapter explores some of the less public faces.

Faces

The public part of a self, that we choose to show, to share with others, is only one of our faces.

There are many records of Jones' public self. His operating lists are the closest we have to an engagement diary, recording how he spent his professional life. There are also memorials - plaques on buildings; lectures, wards, medals, and a hospital named after him; and officially commissioned portraits.

Robert Jones by the Liverpool artist, Frank Copnall: The portrait hangs at the head of the conference table in the Presidents' Room at London's Royal College of Surgeons. Of the portraits of past presidents, Jones' is the only painting, the rest being photographs, mainly black and white.

The Robert Jones Dining Club meets annually. They honour him by standing in a silent toast to his memory at exactly 9 o' clock, a tradition begun at a banquet at the Café Royal in London on 28th June 1928. The dinner was held to mark Robert Jones' 70th birthday, but his friends had got the year wrong and celebrated his 71st

birthday instead. Friends, colleagues, and family, shared a feast,[277] and afterwards Jones was presented with a portrait. It shows a benign face. Jones' smile was part of his charm, and rumoured to be worth an extra £1000 a year in revenue from grateful private patients. His waistcoat strains across a stomach used to good meals. In the portrait, Jones' hair looks in need of a trim. His assistant, Tom McMurray used to cut his hair for him. McMurray's wife, Freda, Jones' secretary, recalls:

> Sir Robert would be dictating to me in the studio when my husband would come in, walk round Sir Robert and say, "Sir, your hair wants cutting." "No, no, no, McMurray, it is perfectly all right as it is." "No Sir, it is far too long, it is nearly over the top of your collar." A sheet would then be spread on the floor, a chair placed in the centre, and, still protesting, Sir Robert would be divested of his coat, put into a white coat and wrapped in a towel and be led to the chair. The hair cutting would then begin and the dictation continue at full speed, with frequent shrieks of "McMurray, you are cutting my ears, I am sure you have done enough." My husband would go on stolidly until the end, when a mirror would be held up for Sir Robert to see the result. He was always very satisfied and would give my husband a sixpence tip…![278]

In addition to the portrait, Jones was presented with a volume of previously unpublished essays about orthopaedics. Preparations for the book had started two years previously, and had been conducted in secret. It was given 'in honour, dedication and respect from his students and disciples'. Jones' son-in-law, one of the guests, recalls that 'for a time he was too overcome to reply' (W 278), and that night, in a letter to his close friend and colleague, Naughton Dunn (one of the contributors to the book) Jones wrote: 'I don't think I ever felt so great an emotional strain…because I had not even secured a hint that such a gift would take place. The memory however will be an everlasting joy.'

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[277] The menu included salmon, chicken, foie gras in port jelly, and strawberries.
[278] *JBJS* Centenary edition published in 1957. The author's copy is a presentation volume. It is not paginated.

> Berkeley Moynihan, long time friend and colleague, wrote the preface to what is now commonly known among orthopods as 'The Birthday Book'. In it, he describes Jones' work in orthopaedics:

His manipulation of a limb might be a demonstration of the immense power which a man of great strength can apply almost ruthlessly when the occasion demands it, or of the most exquisitely gentle and tender caress when only a light touch is needed…As an operator he is among the very greatest…In the last thirty years I have seen many surgeons in many lands. I have seen none who, in mastery of technique, manipulation, judgment, and care for the individual has surpassed Sir Robert Jones.

The co-ordinator of this festschrift, Sir Harry Platt, was interviewed by the *BMJ* just prior to his 100th birthday in 1986. In the article, he goes further than Moynihan, calling Robert Jones not 'among the greatest', but '*the* [my italics] greatest surgeon who ever lived' (Smith 864).

The interviewer records:

> …when as a small boy [Platt's] father took him to Liverpool on the train. They took a hackney cab to 11 Nelson Street and waited ages before "this curly headed fascinating man" came through to examine his "swollen and contracted knee". With a quick movement Robert Jones straightened the knee for the first time in a long while, and Sir Harry cried. Thereafter, he and his father made regular visits…and discovered that the way to get an early appointment was "to tip old Tom[279], the butler" (ibid.).

Harry Platt grew up to be an orthopaedic surgeon of world-renown himself, the first orthopaedic surgeon to be made President of the Royal College, but his correspondence with Jones reveals that as well as the early doctor/patient relationship, and later their work as colleagues, they were close friends, and it's here where the distinction between Jones' professional and personal faces stars to blur.

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[279] Robert Osgood, an orthopaedic surgeon from Boston, Massachusetts, and close friend and colleague of Jones', describes Tom as 'the no-one-knows-how-old-butler, x-ray man, waiter, nurse, apparatus expert, valet, operative assistant and general factotum' of 'that historic house at No.11, Nelson Street'. (*JBJS Am*. 1918; s2-16: 132-140.)

Like Platt, Agnes Hunt first encountered Jones as his patient. Their names are now coupled in the name of Oswestry's orthopaedic hospital, in a demonstration of their professional alliance. But they were also close friends.

The friends Jones enjoyed and cultivated were not just drawn from among his colleagues. They included the writers Joseph Conrad and John Galsworthy, but one of the most devoted was the young exiled King Manuel II of Portugal. King Manuel was, for a short time, the youngest monarch in Europe. His succession to the throne at the age of nineteen came after the assassination of both his father and older brother in February 1908. They were shot dead in an open landau while the Queen, his mother, was 'standing up in the carriage…striking with the only weapon she possessed, a bunch of flowers' (Brust 24) trying to dislodge one of the gunmen clinging to the back of the carriage, which explains his empathy of Jones' 'Terrible [sic] experience of suffering' when his wife, Susie, died in 1918. In a touching letter written to Jones on his bereavement, he calls him by a nickname 'Twice', and refers to his war work as 'reconstructing what men have brocken [sic]'. The explanation for the nickname, 'Twice', has not survived, but shows a closeness between the two men, perhaps, in view of their age difference, like that of father and son. There is a walking stick still in the family that is reputed to have been King Manuel's.

The day before his own death, in July 1932, he signed a book for Jones. When his body was laid to rest in Westminster Cathedral, 'Three wreaths only were

laid at the foot of the coffin. They were from the King and Queen of Norway, the British Legion, and Robert Jones' (W 293).[280]

Jones was a sociable man, particularly enjoying the company of his friends with food. There are menus surviving from across his life. One, dated February 16th 1891, is from the annual dinner of the Medical-Literary Society that Jones co-founded in 1884 with three fellow students. The dinner, held at the Falcon Restaurant in Liverpool, included eight courses including hare and maccaroni [sic] soups, entrée of stewed sweetbreads, chicken and ham rissoles, and game. The courses were punctuated by six toasts. The society's fortnightly meetings were more frugal. Its By-laws state that 'The host is allowed to provide tea, coffee, bread and butter, and plain cake', the competition being in the debate rather than the provisions.

Jones enjoyed the after dinner cigar as much as the food. Later in his life, he had a comfortable chair reserved for his use at a cigar shop in London's Piccadilly. Portraits and photographs of doctors from the late nineteenth and first half of the twentieth centuries often show their subjects wreathed in smoke from a cigarette or cigar. Fleury's portrait of Jones' uncle and mentor, Hugh Owen Thomas, which hangs in London's National Portrait Gallery, shows him with a lit cigarette.[281] Thomas took up smoking during Liverpool's cholera epidemic of 1866, believing it

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[280] He died suddenly of tracheal oedema at Fulwell Lodge in Twickenham. There are still some unanswered questions about it. He seemed healthy and had been playing tennis the previous day. The Special Branch officer, Harold Brust, had witnessed the assassination of King Manuel's father and older brother, and records that an intruder was arrested shortly before Manuel's unexpected death. Brust, an admirer of the young king, after witnessing that fully aware he 'was marked down for death…that gallant youngster, still only a boy, a beardless youth, chose to walk alone, unattended, through the streets of Lisbon to take the oath of allegiance upon his accession to the throne. It was…the bravest thing I ever saw' (32), wrote, 'England is the safest place for those fleeing from foreign political persecution' (46). Tracheal oedema can be the result of strangulation. Brust also notes in his memoir that in the 'days fraught with significance' (85) before the Great War, the most dangerous man in Europe was 'the little man with the cigarette' (89) he had observed at a political meeting in London. The 'little man' was Lenin.

[281] www.npg.org.uk/collections Fleury painted the portrait circa 1890, the last full year of Thomas' life, and the last year of his own.

gave him protection against illness as he treated its victims in the dockland slums of his practice.

Jones' time with his friends wasn't confined to mealtimes. He was also fond of constructing elaborate practical jokes. The friend and colleague with whom he founded Heswall, Charles Macalister, relates the lengths he would go to for a laugh. On a yachting holiday in Scotland in 1897 with a group of friends which included Macalister, Jones was the last to breakfast one morning, after which the group set off for a walk. They happened upon a travellers' campsite, and Jones started up a conversation with them, during which it emerged they were of the clan Macalister and related to a Liverpool doctor, 'but regarded him as a very indifferent practitioner and were not at all proud of the connection'.[282] It turned out that Jones, always an early riser, had rowed the yacht's dinghy ashore at 5 o'clock that morning, and bribed the encampment to claim they were distant relatives. Macalister got his own back though. Later that day, when Jones was asleep on deck, he collected all the empty bottles he could find and placed them round Jones, took a photograph and sent it to Susie.

Enjoyment of shared activities extended to sport. Jones rode to hounds, and Freda McMurray recalled that he always found the time to play, however packed his schedule. 'At the week-end he frequently relaxed at his daughter's home in North Wales, where he enjoyed a day's shooting during the shooting season'.[283] And there was an occasion Jones cherished when William Frederick 'Buffalo Bill' Cody

[282] From Charles Macalister's unpublished memoir, *A Physician's Retrospect.*
[283] Her entry in *JBJS* Centenary Edition - author's unpaginated copy.

presented him with a pistol.[284] On a tour of Britain, Cody had a slight accident requiring medical attention. Jones was recommended to him. A lover of all things American, and a fan of Cody's, Jones was thrilled to meet him. After the consultation, Cody presented Jones with a pistol.

Another sport, cricket, was a lifelong 'idolatry' (W 290).[285] Frederick Watson, who knew him well, says it would be unthinkable 'To pass over the place of cricket in his philosophy of life' (ibid.). He was a leg spin bowler, and in a letter to an old friend, Jones says he considers it one of his greatest achievements to have bowled W.G. Grace out at the Oval during batting practice.[286] On the morning of his death, Jones passed some time listening to the Ashes from Adelaide on the wireless.[287] This was one of the games of the infamous Bodyline series. Jones had an added interest in the series, having previously treated Harold Larwood[288] as a patient. In 1932, Platt wrote, 'Four years before, Sir Robert Jones had removed a damaged external cartilage from Larwood's left knee joint. The knee had stood up well to the stresses of fast – very fast bowling'.[289] Larwood had been troubled with his knee

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[284] Buffalo Bill, 1846-1917, was a cattle herder, wagon train driver, fur trapper, gold miner, Pony Express rider, Army scout, actor and showman. His nickname derived from the vast number of bison he killed to supply railroad workers with meat. He organised Wild West Shows, which included Sitting Bull and sharpshooter Annie Oakley among the performers, and typically though somewhat bizarrely, ended in a re-enactment of Custer's Last Stand, with Cody in the role of Custer.

[285] An unattributed obituary in the *Manchester Guardian* says: 'When the Australian team last came over to England he [Jones] joined the club of each county in order to see the Test matches and sit in the sun'.

[286] Ironically for an orthopaedic surgeon, Jones bowled leg breaks.

[287] This was the Third Test in the series. Played at the Adelaide Oval over five days in January 1933, England won by 338 runs to lead the series 2-1. A massive, jeering crowd saw Larwood hit Woodfull above his heart and bowl the ball that fractured Oldfield's skull. He claimed 3 wickets in the first innings, including Bradman for 8. Bradman scored a small revenge when he caught Larwood off the bowling of Ironmonger for 8 runs. Although The Australian Board of Control sent a telegram to the MCC protesting that bodyline bowling was unsportsmanlike, Larwood remained on excellent terms with most of the Australian players. In the final Test in Sydney, Larwood broke a bone in his foot and limped off the pitch when Bradman's wicket fell. The two men did not speak to each other. Larwood sailed home to a hero's welcome. In 1950, he sold the sweet shop he ran and emigrated to Australia.

[288] Harold Larwood, 1904-1995, played cricket for Nottinghamshire and England. A professional, during the time of gentlemen amateurs, he was a ferociously fast and accurate bowler, playing in 21 Test Matches. Despite the controversy of the Bodyline Tour, he was eventually inducted into the ICC Cricket Hall of Fame in 2009.

[289] From the Sir Harry Platt Archive in the Liverpool Medical Institution. The great West Indian bowler, Michael Holding, recently recorded the same assessment of Larwood's speed when shown an archival film.

through the summer, and was passed fit (in consultation with Jones) only because on the long sea voyage to Australia, he had the chance for rest and recuperation.

Cricket was a passion from his early school days onwards, and his love of the game spilled into his working life. He seems to have lacked the ego of some surgeons, and understood the value of teamwork in his operating theatres. One reason he inspired such loyalty among his colleagues was because they knew he valued their roles. He would insist on the whole team eating together after a marathon session in theatre – the porters, the nurses, the surgeons, all sitting down together, and it was not unknown for him to gather his exhausted team and chivvy them outside for an impromptu cricket match.

Jones also enjoyed quieter, more solitary activities. From his earliest days when his father had read to him, he liked stories, and kept an extensive library. The American writer, Bret Harte (1836-1902) was one of his favourite authors. The Medical-Literary Society Minutes from 1st June 1887 state that 'Dr Jones differs from Dr Lee…in thinking that Bret Harte is a poet of very great merit'. Other authors discussed at these meetings included Thackeray, Byron, Hardy, Scott and Dickens. It's recorded that Jones 'considered Dickens' imagination was the charm of his writings. He considered that Dickens had done much good by his severity on Parochial and other institutions' (Thursday June 11th 1885). Presumably the reference alludes in part to *Oliver Twist*, published in 1838. The Liverpool Workhouse stood immediately opposite the Liverpool Medical Institution, on the site now occupied by the Roman Catholic Cathedral.[290]

Harte was a journalist who also wrote short stories and poetry. According to Watson, Jones had 'a kind of aversion to depressing stories' (287) (he hated

[290] Jones was President of the LMI from 1912-1914.

Thomas Hardy for example). However, Jones would have found *Condensed Novels*, a collection of parodies of popular Victorian fiction ('Miss Mix' is Harte's take on *Jane Eyre*, for instance), entertaining.

Towards the end of his life, Jones developed a new interest in showing dogs. He loved them - the bigger, the better. His last two were a three-legged Alsatian, and an Irish Wolfhound, a gift from his colleague and friend, Walter Rowley Bristow. Jones' youngest granddaughter, Anne, who was just five when Jones died, said she remembered walking into the garden between two enormous dogs. She was so small she couldn't see over the top of them. In a letter dated 4th December 1929, Jones describes the Irish Wolfhound, Barry, as a puppy: 'His teeth are sharp as lancets. Two of my chairs show marks of his activity, and I think two pairs of silk stockings have gone west!' The dogs occasionally accompanied him on ward rounds.

Robert Jones may have been, as Harry Platt described him, 'the greatest surgeon who ever lived', but though it is certain that his fame and reputation are derived from work at the cutting edge, so to speak, of medicine, he was also a pugilist, cricketer, epicure, cigar aficionado, lover of dogs and Americana, collector of books and paintings, treasured friend. What these interests show is a relish for life that is also evident in his career choice. Orthopods are concerned with restoring the quality of their patients' lives, but devoted as he was to his work, Jones also clearly enjoyed his own life with gusto and seems to have brought that spirit into his treatment rooms.


Wellcome Images

SACRUM

“To the Glory of God

And in Loving Memory of Robert Jones,

Great Surgeon and Greater man,

Who devoted his life to the mending of the maimed

And to the cheering of the desolate.”

Plaque erected in memory of Robert Jones in the Goodford Memorial Chapel

Robert Jones Agnes Hunt Memorial Hospital, Oswestry, Shropshire.

Not far from Oswestry, up a rutted track that winds through fields of ancient oak and comfortable sheep, sits a large stone house with a slate roof and lots of chimneys. It's named *Bodynfoel*, which translates from Welsh as 'house on the side of the hill'. Robert Jones' daughter and son-in-law rented this house in Welsh border country from the 1920s. Jones used to go as often as he could to hunt and shoot, and visit two of his surviving granddaughters, Lorna and Flora.[291] This final time, the family arrived on December 26th 1932, having spent a quiet Christmas at Jones' home in Liverpool.

Bodynfoel. September 2009.

Looking out from the house there are magnificent views across the valley. Robert Jones rode his Welsh cob, Mrs Jog, on the slopes around the house. Because Jones now suffered from debilitating rheumatic gout, Mrs Jog was led right

[291] His other granddaughter, Anne, lived at that time with her parents in Cromwell Road in West London.

into the hallway so that he could mount her from the stairs using the banisters as support.[292] Outside, on the valley floor, stands of trees resemble clusters of children holding hands in a playground. This is the landscape he drew in pen and ink. This is the view he enjoyed in his final days. This is the house where Robert Jones died just before midnight on January 14th 1933.

His remains were carried back to Liverpool, where his funeral took place on January 18th.

Robert Jones' was the first burial within the cathedral, and he is still the only lay person buried there. The building had only been consecrated nine years earlier, on July 19th 1924, and was as yet unfinished.[293] The Chapter Minute Book states that this Gallery is a place 'where the ashes of distinguished persons, who have rendered exceptional service to their generation may be fittingly deposited', and, more specifically, why Robert Jones was given this honour:

> In view of the great services rendered to humanity at large by the work of Sir Robert Jones, as a pioneer, teacher and practitioner of orthopaedic surgery; of the affectionate bestowal of his skill on suffering children; and of the devotion of his genius to the care of the soldiers and sailors of the Great War, the Dean and Chapter of Liverpool offer for his remains a resting place in the Cathedral.[294]

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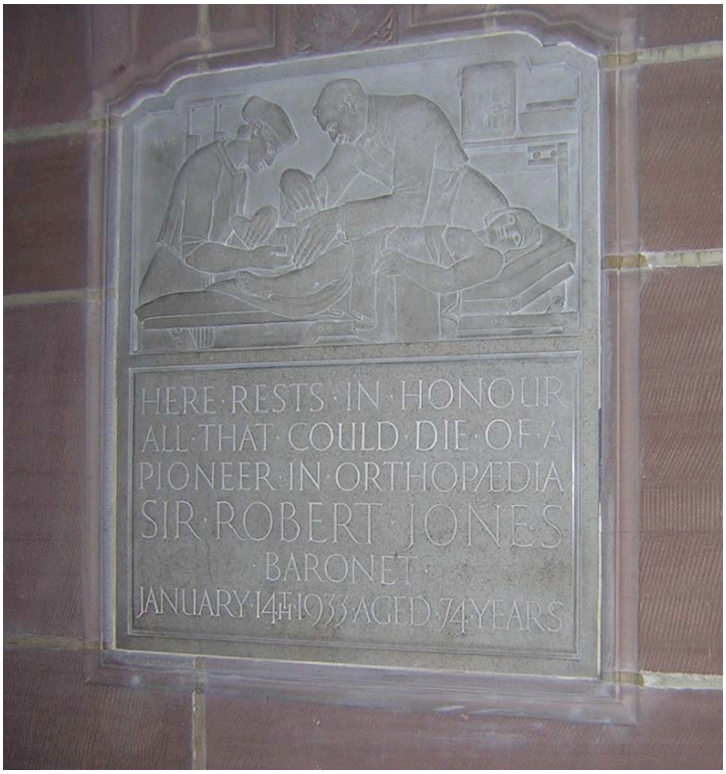
[292] Tiny needle like crystals of uric acid build up inside the joints, often starting with the toes, causing swelling and such extreme sensitivity that even the touch of a sheet can be agonising. Benjamin Franklin and Henry V111 were also sufferers.

[293] The building of the cathedral was not finally completed until 1978. Liverpool's Roman Catholic Cathedral of Christ the King was consecrated in 1967.

[294] Jones' body was cremated at Anfield Crematorium. The Orthopaedic Hospital at Hartshill held a memorial service in their open-air pavilion simultaneously with the service in the cathedral as a mark of the esteem in which they held him (*Stafford Sentinel* January 18th 1933).



The Liverpool Post and Mercury *reported:*

There are four "Restings" in the cathedral, dedicated as resting-places for the bodies of such as render conspicuous service to humanity…The window overlooking [Jones'] "Resting" depicts scenes appropriate to his life's work; scenes from the parables of service, including that of the Good Samaritan and Neighbourmaker. It shows Christ serving the people by teaching and healing. Sir Arthur Probyn-Jones felt that the great interest his father had in children and public service indicated that his resting-place should be under the light of service.

The original Service window was blown out during a Second World War bombing raid, but the replacement still contains an image of the Good Samaritan. In fact, there are two windows in the cathedral showing the parable philanthropist. The other is the St Luke window in the Choir, and Jones' resting place lies directly between them.

The Order of Service of Jones' funeral shows that proceedings began with Vaughan Williams'[295] adaptation of *Let Us Now Praise Famous Men.*[296] His version includes the lines: 'The Lord gave men skill that they might be glorified in his marvellous works, with them doth he heal a man and taketh away his pain…/Their bodies are buried in peace; but their name liveth for ever more'.

It seems to be true that Jones' name indeed lives on. Many doctors (not just orthopods) remember the name of Robert Jones, and his work. But outside the profession he is largely unknown.

The earlier biography of Robert Jones was written too soon to offer any meaningful evaluation of his work or reputation, and as we have seen, it's possible to argue that fathering orthopaedics is not attributable to one specific man, but is the cumulative effect of the work of many men making advances in the field of restoring locomotor function. However, although this egalitarian view may account for part of the story, it does not explain why Jones is attributed with paternity.

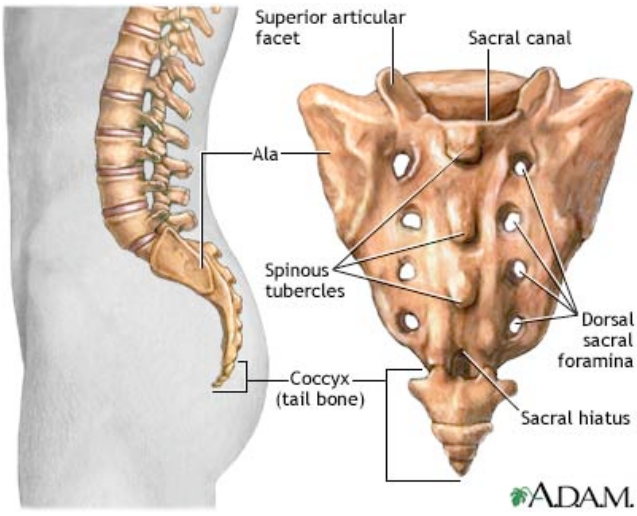
The word 'sacrum' comes from the Latin sacer meaning sacred and the Greek hieron (osteon) meaning sacred or strong bone. Supposedly, the sacrum is the seat of our organs of creation. It is a large, irregular shaped triangular bone containing five fused vertebrae and connecting with the spine's lumbar vertebrae

[295] Ralph Vaughan Williams, 1872-1958. This is an example of his church music. He is perhaps most famous for his importance as a collector of English folk music and song, his *London Symphony* (1914), and the score of the 1948 film, *Scott of the Antarctic.* According to an article in *The Independent*, he is 'The Man Who Set England to Music'.

[296] The original words are in the Apocrypha (part of the Old Testament), Ecclesiasticus 44 (not to be confused with Ecclesiastes), written in Greek by Yeshua (Jesus) ben Sira, also known as Sirach, in the 2nd century BCE. This extract is a traditional reading on All Saints' Day.

and coccyx. It articulates with the pelvis on each side at the sacroiliac joint. The holes along both edges, the foramina, are where the sacral nerves controlling the bladder and bowels and sensation to the pubic area, exit the spinal column. It withstands huge amounts of stress.

This anatomical description resonates when thinking about the claims made on Jones' behalf. He seems to have given orthopaedics its status and respectability by being one of the men who joined the bonesetting past with his scientific present. He brought his colleagues together, uniting them in the practice of Thomas' principles. And he did this through collaboration, giving and gaining professional recognition, and educating the next generation of surgeons. His innovations and publications helped rescue and rehabilitate not just injured patients, but orthopaedics itself from its previously disreputable status.



Sacred and Strong

Robert Jones is a deified figure among the generations of orthopaedic surgeons who have succeeded him. Even the quickest glance through writing about him throws up words like 'disciple', 'Mecca', 'altar'. The hundreds of obituaries, and the Watson biography, place him Nelson-like on top of a column way above us. The social historian, Roger Cooter, considers this to be part of the Jones mythology. But this is *not* mythology. A myth has no factual basis. Jones is neither invented nor imaginary, and although one of the definitions of myth is 'an unproved or false collective belief that is used to justify a social institution',[297] belief in Jones is certainly collective, but his reputation doesn't seem to be either 'unproved' or 'false'.

Letters Jones wrote towards the end of life show he cherished the fact that orthopaedics was a developing discipline, and enjoyed watching and reading about the work done by the young men who became his colleagues. Making Jones a professional role model, adopting the principles he espoused, and affording him respect, demonstrates an understanding and appreciation of his skills and contribution to medicine.

We have seen that Robert Jones was strong enough to break bones with his bare hands, but more crucially, he was strong enough to withstand carping and criticism from medical professionals who did not want orthopaedics to become a discrete specialty. His strength lay in steady commitment to and passion for the discipline in which he excelled.

[297] www.dictionary.reference.com

Seat of creation

Nicholas Andry coined the term orthopaedics in 1741. Other surgeons advanced knowledge and invented and perfected amputations, bone grafts, tenotomies and so on. Hugh Owen Thomas' principles (primarily continuity of treatment and conservative surgery) governed the emerging discipline in Britain. But it was Robert Jones who galvanised orthopaedics; made it respectable. An article in the *BMJ* in July 1934 states he was 'the creator of modern orthopaedic surgery' (178), and that the memorial had been set up specifically to establish his 'immortality' (ibid.). Here, his colleagues have ranked him in importance alongside William Harvey, 'the blood man', John Hunter, 'the knife man', and Joseph Lister, 'the antisepsis man', making him Robert Jones, 'the bone man'.

In part, his role as 'creator' is down to disseminating what he knew. Although not a notable academic and scholar himself, Jones did teach. On November 30th 1909, the University of Liverpool wrote to him:

> At a meeting of the Council, held to-day, you were appointed Lecturer in Orthopaedic Surgery, under Class B, for a period of five years as from 1 October, 1909. The fee for the course on Orthopaedic Surgery is £1 1s. – two thirds of which goes to the Lecturer. The Lectureship carries with it a seat on the Faculty of Medicine.

Later, he broke new ground: 'In 1921, the University of Liverpool created a Department of Orthopaedic Studies, made Jones the Director and instituted the degree of Master of Orthopaedic Surgery; this was the first degree course in postgraduate orthopaedics in the world' (Cope 121).

Although Jones had a series of assistants, his friend Berkeley Moynihan often chided him for not teaching more, for not ensuring there would be someone to carry on his work in his way. The postgraduate course meant that he

could formally pass on his knowledge and expertise to another generation. It's been said that even being failed by Jones was an honour.[298]

Fusion, Connection and Articulation

Many current orthopods consider themselves the custodians of the principles Jones taught.

A medal is awarded each year to the person who delivers the Robert Jones Lecture at the annual British Orthopaedic Association Congress (the body Jones himself helped to set up – twice). Colonel Michael Stewart, Defence Medical Services Consultant Advisor in Trauma and Orthopaedics, delivered the 2009 lecture. The subject was surgery in wartime, in Colonel Mike's case, the current conflict in Afghanistan. He has said that being asked to deliver the Memorial Lecture was the highlight of his career. It is a career of great distinction, yet he acknowledges the debt orthopaedics owes to Robert Jones, and what it has inherited from him. Medics working in Afghanistan face the same problems with blast injuries and rampant sepsis that Jones and his teams confronted. It seems, each generation, some lessons have to be learned again and again.

Awards like the Robert Jones Medal are a way of keeping connections with the past alive. Jones himself received similar recognition in his life, making him part of the chain of expertise in the profession.

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[298] Bryan MacFarland and Harry Platt in conversation on film in the Wellcome Archive.

In 1909, he was awarded the Liston Victoria Jubilee Prize, given in memory of the surgeon Robert Liston 'to the Fellow or Licentiate of the College, for the greatest benefit to practical surgery during the period since the last award' (it is given every four years).[299]

The devotion and loyalty Jones inspired spread orthopaedics outwards from Liverpool across the country. Tom McMurray, initially Jones' assistant, took over from him at Nelson Street; his friends, Naughton Dunn and Gathorne Girdlestone ran orthopaedic services in Birmingham and Oxford; and Harry Platt who first met Jones when he was brought to him as a child patient, was based in Manchester. Platt later went on to become President of the College. These and dozens of others, daily demonstrated Jones' principles and methods, while at the same time feeling comfortable – actively encouraged by Jones – with developing their own fields of expertise within the discipline. Jones' friend, Walter Lawrence, recalled:

> In those dreary years of the war my happiest and brightest recollection is my association with you, and meeting with the choice spirits you seemed to gather round you. And it does rejoice me to know that the enthusiasm you aroused was not a mere war product, but has left its healing and restorative influence in twenty-six of our counties (W 258).

Arguably one of Jones' greatest legacies is the National Orthopaedic Scheme to which Lawrence refers, the premise of which was prevention as much as treatment, with a particular focus on children.[300]

Jones' work during the Great War had crystallised his view that continuity of treatment was crucial to a patient's recovery. Agnes Hunt summed up their

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[299] Taken from the letter from R. McKenzie Johnston, F.R.C.S.E. Secretary, dated 15th July, 1909, to Robert Jones, a copy of which is in the SRJ archive at the LMI.

[300] What goes around comes around – many of the hospitals set up to make the scheme work have been closed over the years. A new scheme, the National Orthopaedic Project, was set up in 2004. Treatment centres were established again, as were links with other specialties such as oncology. Michael Benson, then President of the BOA, said '…team working and efficiency are key elements' (www.rxpgnews.com) – Jones' legacy.

frustrations when she said, ‘Almost all children who are badly crippled…suffer from a knowledge that they are not as other people, and that they cannot compete with the able-bodied. People…bestow on them unhelpful pity’ (200). It was treatment, not pity, these children needed. But so was education. Hunt recalled that during her nursing days she visited a child with two club feet. He had been provided with a splint by his local hospital:

> I demanded to know where it was, and she [the mother] carefully fetched the much-prized splint out of the cupboard. Unwrapping the tissue paper and looking at the surgical appliance with wonder-filled eyes, she remarked that “The granddad allus ‘ad them put on of a Sunday”. This…was no isolated case. I have seen children with…crippling diseases, go into hospital, and return to their wretched homes…No proper treatment, no after-care, and no hope for the future...(145).

It was to deal with such cases that the scheme was initiated, with the idea that, ‘If patients would not come to the central hospital…the central hospital must go to them’ (W 242). So a network of hospitals was set up across England and Wales, ‘supported by voluntary workers, the Red Cross, Medical Officers of Health, district nurses and school teachers’ (ibid. 243).

The connections Jones made for orthopaedics crossed international boundaries. Along with colleagues in America, Germany and Italy, Jones had been interested for some time in a society that would provide orthopods around the world with the opportunity to exchange ideas. Despite language difficulties, the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT), first met in Paris in October 1929. The members elected Robert Jones as the organisation’s first President.

Nerves

At the end of the *JBJS* edition devoted to marking the centenary of Jones' birth, there are five closely typed pages listing his publications, dating from Remarks in the *Lancet* on Ununited Fractures of Humerus, Radius and Ulna in 1883, to seven pages on Manipulation as a Therapeutic Measure, published in the *Proceedings of the Royal Society of Medicine* in 1932. Although the majority of the articles, pamphlets, and books are concerned with the treatment of orthopaedic injuries, they are not exclusively so. Other topics he wrote about range from diphtheria (he lost a granddaughter to the disease), through haemorrhoids (the subject of his first paper at the LMI), to intestinal obstruction (one of his uncle, Hugh Owen Thomas' specialities).

A former President of the BOA, Alan S. Malkin, commented that the success of the seminal texts Jones published during the Great War of Jones, specifically *Injuries to Joints* and *Notes on Military Orthopaedics*:

> …was due to the burning enthusiasm of the writer, but…also…to the intrinsic worth of the advice given. This advice was of practical value – it was easily understood – it was based on sound common sense – it was written in an easy readable style with a minimum of words – it was well suited to its readers and it met an urgent need.[301]

Publication distinguishes orthopaedics from its bone-setting heritage. Bonesetters passed on their expertise from generation to generation, usually within a family, by word of mouth. Mostly their procedures were kept secret, shrouding their work in mystique. Jones' publication list demonstrates his desire to share his expertise.

[301] *JBJS* Centenary edition.

Seeing, knowing, understanding, are nothing without the energy, talent and skill to take action, to make progress. Someone else could have managed the care of navvies in the 1890s, but they didn't. Robert Jones did that, with his vision and organisational flair. Someone else could have been the surgeon involved in the building of Heswall Children's Hospital, but as we have seen, not all medical men were convinced that it was right to restore chronically sick working class children to health; not all of them would have devoted their time and energy to the enterprise, could have been so persuasive when it came to getting people to part with their money to fund the operation. But Robert Jones did. Someone else could have worked to restore the health of those wounded in the Great War. But not everyone, and many believe no one else, could have taken on his role as Inspector of Military Orthopaedics. The maimed and mutilated would have been worse off without Jones' vision and co-ordination and dedication and skill and ability to attract young talented surgeons from home and abroad to his cause. Others might have, but they didn't. Robert Jones made things happen.

Medicine is collaborative, but it would be foolish to ignore the individual contributions made by men like Joseph Lister and Louis Pasteur. Their influence was not felt immediately, but they had ideas, energy, and persistent belief despite the scepticism and hostility they faced. The same applies to Robert Jones.

Moynihan said that it was not by the size of a practice, nor by wealth, nor by invention, that greatness can be assessed, but:

> In permanent greatness there is something more than this. There is the establishment of a tradition, the wide impression of good news, theories, principles, and practice, on a large number of surgeons; the training of assistants, disciples who can perpetuate and even during his lifetime multiply their usefulness for the benefit of humanity…Sir Robert founded the first orthopaedic service in any army in the country [and] He had a mesmeric way with nervous patients…He was in his work the greatest kind of genius, the genius who did not need to take infinite pains but always did (Liverpool Post January 16th 1933).

Even allowing for the facts that this was an obituary and it is not traditional to speak ill of the recently dead, and Moynihan himself was one of the disciples he mentions, the establishment of the principles of orthopaedics, and their dissemination to surgeons all across the world, is indisputably Jones' legacy. Harry Platt said, 'if there had been no Robert Jones, we, all of us, would not be where we stand today' (*JBJS* 232).

Robert Jones did not save the world, but he did save thousands of patients. His resting place in Liverpool Cathedral is not just his memorial, it is a monument to all those he treated. His belief in his work, and his ability to persuade others to think and act in the same way, has ensured that the quality of the lives and limbs of millions of us all around the world is preserved. His ashes may lie in Liverpool Cathedral, but his remains live on in the hands of today's orthopaedic surgeons.

CRITICAL COMMENTARY

Biography for Beginners

The art of Biography
Is different from Geography.
Geography is about maps,
But Biography is about chaps

Edmund Clerihew Bentley

This clerihew raises some important questions, and not just for a beginner. Is biography an 'art'? Is it about 'chaps'? Is it possible to say exactly what biography is rather than what it is not?

The historian, Katherine Keats-Rohan, gives a neater definition, saying that biography is 'the conscientious compilation of a rounded study of a single and in some way singular person' (141).

However, neither definition offers anything about either the purpose of a biography, or who its audience might be, and why people have such an appetite for the life stories of others. This commentary, accompanying the biography *Lives and Limbs: Re-membering Robert Jones*, addresses both purpose and audience, considers biography's historical context, and discusses some of the issues facing all biographers.

The history of Biography

When looking at the development of biography, a shifting pattern in its purpose is discernible. Although not neatly chronological, the genre has moved roughly from didacticism in first century Roman literature, to post-Freudian demystification, when both readers and writers became interested in the psychological, and biography reflected this trend. Prior to the twentieth century, as

we shall see, biography had served a different function. The Boston Globe journalist and 2008 Pulitzer Prize winner, Mark Feeney, said, 'Once the implicit aim of biography was to uplift now it is to unveil'.[302] The changing styles reflect different paradigms concerning how we think about ourselves and others.

The earliest biographers weren't interested in their subjects' complex motives, nor were they overly troubled by telling the truth, the whole truth, and nothing but. They accepted that a complete record of a life does not and cannot exist, but thought that great deeds and the people who did them were worth recording and passing on from one generation to another; a development of the saga or its cultural equivalent. In the first century AD, Plutarch and Suetonius recounted the lives of the great men who made the world. It is more common these days to tell of ordinary people (women as well as men) who have been shaped by the world, with a shift in emphasis from simply recording what people did, to exploring, examining, and analyzing why they did it.

The earliest biographies were little more than histories.[303] Suetonius (circa 70 – 130 AD), who wrote *The Lives of the Caesars* recorded events, physical descriptions of his subjects (Rome's rulers and great men), and omens in their lives. His sources were links with his subjects: some referred to simply as 'they', others, like Brutus and Cicero, were named. He says he doesn't buy into gossip - 'I pass over…I take no account of...' (69) - but he also says what the gossip is.[304] He makes few comments about his material or his subject, but there is occasional authorial presence in the first person pronoun.

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[302] www.thinkexist.com
[303] According to the *Encyclopaedia Britannica*, the word 'biography' was not used until the C17th.
[304] www.penelope.uchicago.edu/Thayer/E/Roman/Texts/Suetonius/12Caesars/home.html

In Plutarch (circa 46 – 120), the subjects' exploits, the battles, details of the armour worn, and so on, are all included, but he is also explicit about aiming 'to examine the character of great men, as a lesson for the living', rather than providing a mere chronicle of historical events.[305] This didacticism also motivated literate monks and scholars, like Asser, Bishop of Sherbourne, who wrote the life of Alfred the Great in 893, and the twelfth century Eadmer, who wrote a life of Saint Anselm. Those writing the lives of emperors, kings and saints, 'the great and the good', cared less for facts and character than for the lessons the unsanctified and ordinary could learn from the self sacrifice and devotion of 'greater' men and women. The purpose of the tale was to use the subject as a vehicle for teaching readers how to behave. The deeds were more important than the character. It was assumed that saints had good characters, or if like St. Francis they were Godless in youth, finding God was their – and by inference our – redemption. Walter Benjamin suggests the chroniclers of the Middle Ages had neither need nor desire to explain anything about their subjects, since:

> By basing their historical tales on a divine plan of salvation – an inscrutable one – they have…lifted the burden of demonstrable explanation from their own shoulders. Its place is taken by interpretation, which is not concerned with an accurate concatenation of definite events, but with the way these are embedded in the great inscrutable course of the world (20).

It wasn't until the seventeenth century, when writers such as Izaak Walton,[306] John Aubrey, and Roger North[307] were taking friends and relations as their subjects, that these histories were first termed biographies. This is also the time that the first women biographers were writing. Lucy Hutchinson (1620-1681) was married to one

[305] www.e-classics.com accessed 04/06/09.
[306] Izaak Walton, 1593–1683, ironmonger, author of *The Compleat Angler* (1653), and biographer of fellow fishermen John Donne and George Herbert, among others.
[307] Roger North, 1653–1734, lawyer, Baroque musician, and family biographer.

of the signatories of Charles 1's death warrant. Her purpose in writing her husband's biography has been variously described as the relating of a love story, a political biography, a war diary, a sociological analysis of English history, a bitterly anti Royalist/Catholic polemic, and an exoneration of guilt at her part in the regicide. Each of those views suggests the various possible receptions of the biography, rather than a true and complete record of Hutchinson's motives in writing her husband's life. Written soon after his death in prison in 1664, it was intended only for private circulation. Subsequent generations of the family, perhaps reticent to reveal their republican black sheep, kept it hidden from view until it was finally published in 1806.

John Aubrey's (1626-1697) collective biography, *Brief Lives*, differs from Hutchinson in that he is self-conscious about language, raising questions about how storytelling and repetition can 'corrupt' the truth. He warned that much of what he wrote was 'not fitt to be let flie abroad' (6) during the subject's lifetime. Like Hutchinson, Aubrey intended much of his writing for private circulation, although, paradoxically, he was irked by other life writers' refusal to admit 'troublesome details' (6) into their work, daring instead to speak out and 'speak plain' (ibid.). This tension between the truth, and protection of a living subject, has never been resolved, and is still an issue for today's biographers, but Aubrey seems to have persuaded himself that the inclusion of interesting details of his subjects' foibles, and verifying the tales told about them, was rescuing people from an otherwise inevitable and undesirable oblivion. Even if circulating as mere gossip, if the stories were already in the public domain, then capturing them in print was not unethical, because no secrets were revealed.

Critics dispute whether Aubrey's *Brief Lives* or Boswell's *Life of Johnson*, first published in 1791, mark the start of modern biography: more personal, less formal in both structure and language. But there is a case to be made for arguing the beginning was fifty years earlier than Boswell, when Samuel Johnson published *An Account of the Life of Richard Savage*. Although distorted by Johnson's admitted partiality for his contemporary and friend, the English satirist and poet, the text exposes Savage's flaws as well as expressing admiration for the man and his work. This coupling of revelation with respect brought together elements of Plutarch and Aubrey. Its intimacy mirrors Hutchinson and Walton. But Johnson moves the genre forward as well. He attempts to find some kind of balance between competing, even conflicting, sides of Savage's nature. It precedes psychoanalysis by a century and a half, yet Johnson excuses and justifies Savage's behaviour not just because of his lifelong penury, but principally because his mother was 'wicked' (his vocabulary about her is spiced with words like 'malice' and 'calumny'), explaining 'how deep an impression [his mother's cruelty]…had upon his mind'.[308] The author himself is much in evidence, and he is clear and unapologetic that his purpose 'is rather to give the history of Mr. Savage's performances than to display their beauties, or to obviate the criticisms which they have occasioned'. His admiration is frank but reasoned and supported by critical judgement. He could also be describing himself – and in fact allies himself with Savage over several issues – when he says that all Savage's failings can be forgiven because his writing is so good, and 'may improve mankind…he must be considered, upon the whole, as a benefactor to the world'.

[308] www.andromeda.rutgers.edu/~jlynch/Texts/savage

Aubrey, Johnson and Boswell all go beyond mere history, including 'anecdote, humour and humanity'.[309] According to Walter Jackson Bate in his 1977 biography of Johnson, Boswell's goal was to record, to recreate, the 'vast treasure of his conversations' (364) with Johnson, though Boswell has been criticized both for mythologizing Johnson and for the biography's incompleteness: he only knew Johnson for the last quarter of his life, from their meeting in 1763 until Johnson's death in 1784. Boswell makes it clear in his opening paragraphs that his intention is:

> …to write, not his [Johnson's] panegyrick [sic], which must be all praise, but his Life; which, great and good as he was, must not be supposed to be entirely perfect. To be as he was, is indeed subject of panegyrick enough to any man in this state of being; but in every picture there should be shade as well as light, and when I delineate him without reserve, I do what he himself recommended, both by his precept and his example.[310]

This foregrounded distinction between undiluted praise and an attempt at a more realistic, balanced representation of his subject is what marks Boswell out as an innovative biographer. In his Introduction to the 1917 edition of Boswell's *The Life of Samuel Johnson*, now published online by Project Gutenberg, Charles Grosvenor Osgood, then a Professor of English at Princeton University, describes biography as 'the chief text-book in the art of living'. Biography as 'text-book' implies intentional didacticism. Osgood also suggests that the presentation of a great life lived by an admirable man and recorded by a writer with 'such intensity and…ardor and enthusiasm' that the portrait is energetically animated, demonstrates 'that which was delightful, disappointing, possible, or impossible, in a life spent in this world'.

This is what makes biography both so fascinating and so messy – if not impossible – the record of a 'life spent in this world'. History and memory are as

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[309] Quoted from a lecture given by Dr. Ian Blyth at the University of St Andrews on November 29th, 2005.
[310] Text from www.gutenberg.org

much about gaps and partiality as facts and statistics. No reconstruction can ever be entirely accurate. There is no single truth for a biographer to find and tell, though there should be a discernible relationship between what a biographer says and what can be objectively proven.

Boswell researched his subject assiduously, both to verify what Johnson told him during their conversations, and to discover details of the earlier life. His assertion, like his subject's, was that an accurate portrait is only possible through the biographer's direct knowledge of his subject. The issue of authenticity, explored later on, is one which also preoccupied historian and biographer, Thomas Carlyle.

Carlyle, 1795-1881, thought hard about the purpose of biography, about the desirability of 'warts and all' portraits of those who have become worshipped as heroes.[311] Although he eulogises his subjects, elevating them almost to the divine, he was emphatically in favour of showing the warts, stating, 'All heroes will be flawed. Their heroism lay in their creative energy in the face of…difficulties, not in their moral perfection. To sneer at such a person for their failings is the philosophy of those who seek comfort in the conventional'. This crystallises the shift in biography begun when Johnson wrote about Savage, though arguably as far back as Suetonius, biographers were at least acknowledging their subjects' flaws.

Carlyle was himself a flawed man. His biographer, James Anthony Froude (1818-1894), made public the belief that Carlyle's marriage remained unconsummated.[312] Froude was much criticized for this revelation. Biographies of the time, such as Southey's on Nelson (in which there is almost no mention of Emma Hamilton), had carefully stepped away from the frankness shown by

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[311] Carlyle, Thomas. *On Heroes, hero-worship and the heroic in history.* London: Dent, 1908.

[312] Froude first published a memoir of Jane Carlyle in 1881. Its negative reception nearly stopped him going any further, but persuaded by Carlyle's family, he published the first two volumes of the biography of Carlyle himself in 1882.

Johnson, and become respectful, even reverential, in both tone and content. Their purpose was to celebrate and praise, not to expose. However Carlyle had personally designated Froude as his biographer, and Froude was clearly aware of Carlyle's belief that the open discussion of a person's flaws should not diminish their achievements. This may explain his lack of inhibition in exposing Carlyle's private life. Subject and biographer shared the view that exposing a man's flaws does not affect his contribution to society, his legacy, although the resulting scandal from Froude's publication raised several important questions for a biographer, not least, to whom (if anyone) does a biographer owe allegiance – his subject or his audience? If it comes down to a simple choice between the two (and choices are rarely that simple), then for this biographer the latter takes precedence. The alternative is hagiography, not biography.

In 1918, Lytton Strachey developed Froude's exposition into explanation and analysis. *Eminent Victorians*, a collection of four short biographies of heroes of the Victorian age – Cardinal Manning, Florence Nightingale, Dr. Arnold and General Gordon, is remarkable for several reasons. First, biographies up to this point had customarily been epic in their length (Boswell's was over a thousand pages in two volumes), and this single volume told the lives of not one, but four people. Second, its author, Lytton Strachey, wrote in a witty and irreverent style, debunking the mythology that had arisen around his subjects, during and after their lives: 'Everyone knows the popular conception of Florence Nightingale', he writes at the start of the section devoted to her, 'But the truth was different…it happens that in the real Miss Nightingale there was more that was interesting than in the legendary one; there was also less that was agreeable' (1). Not only did Strachey reveal the flaws of his subjects, he was also keen to expose the hypocrisy he felt lay at the heart of

Victorian morality, and in the Florence Nightingale section he is particularly savage about the War Office. This is unsurprising in view of the fact he was writing his book during the years of the Great War, and was a conscientious objector.[313]

Strachey followed *Eminent Victorians* with a biography of Queen Victoria, using the emerging science of psychoanalysis to suggest explanations for her personality traits. When he published *Elizabeth and Essex* in 1928, he sent a copy to Freud,[314] who, according to Hermione Lee, loathed biography's 'attempt to tell the conclusive truth about a life' (117).

Yet despite their reputation for mythbusting, Strachey's short versions of the lives he tells offer more than exposure of his subjects' clay feet. He also reveals quite a lot about the relationship of an individual to the broader sweep of history. Cardinal Manning's 'life was extraordinary in many ways, but its interest for the modern inquirer depends mainly on two considerations – the light which his career throws upon the spirit of his age, and the psychological problems suggested by his inner history' (1). In their presentation, Strachey gives us something of the personalities as he has interpreted them – Florence Nightingale driven by demons, General Gordon's relationships with brandy and boys, and his deep 'dread of the world's contaminations' (15) – but Strachey also demonstrates how these people were both important to, and shaped by, British history. His subjects aren't diminished because Strachey pushes them off their pedestals. By showing us their virtues and their flaws, Strachey is showing what he considers to be a wider truth about British society, with all of its virtues and flaws. His chosen 'eminent Victorians'

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[313] Strachey (1880-1932) wrote a polemical anti-war essay, and published pamphlets critical of the way the government was running the war. When challenged about his pacifism with the question, 'What would you do if you came upon a German raping your sister?', he replied, 'I should try to come between them'.

[314] In 1920, Strachey's brother, James, offered to translate some of Freud's work. To prepare himself for the purpose, he underwent a period of psychoanalysis by Freud himself, which started on his honeymoon. See Maddox pp.160-161.

maintain their importance and their influence because of rather than in spite of their humanity. It is possible to imagine that Edwardian readers found it refreshing to discover that their icons had frailties, just like them, just like us.

Contemporary with Strachey is Virginia Woolf.[315] She wrote critically about biography, and also produced her great parodic biography, *Orlando.* Having described most Victorian biographies as making their subjects into 'wax figures [and] effigies' ('The Art of Biography' 222), in *Orlando*, Woolf raises the point that 'a biography is considered complete if it merely accounts for six or seven selves, whereas a person may well have as many thousand' (213). This is relevant for all biographers. The subject of *Lives and Limbs* was known as Bob, Robert Jones, Uncle Bob, Dr Jones, Sir Robert Jones, RJ, Major-General Sir Robert Jones, and Sir Robert Jones, Bart. Each of these versions of his name, these titles, is a window onto a different aspect of his character, and the names only glance at the surface of the multiple self.

The trend of debunking, begun by Strachey, has since developed into what we might term 'popular' biography, categorised by scandalous exposés of celebrities or the revelations of an apparently ordinary life scarred by some shocking secret. Andrew Morton's 1992 *Diana: Her True Story* tapped into the public lust for their 'people's princess'. Amazon[316] alone has recorded almost two million sales of Morton's book, now translated into twenty-nine languages. This is a trade in curiosity.[317] We live in an era where looking into lives is legitimized on television (*Big Brother; Celebrity Wife Swap*) and as a pastime (magazines like *Heat* and *OK!*

[315] Daughter of Leslie Stephen, co-creator of *The Dictionary of National Biography,* now published by Oxford University Press at a print price of just £7,500.
[316] Amazon.com Sales Rank as on 10/06/09. Amazon has its own biography community.
[317] However, according to USA Today's Top 150 Best-selling books database (accessed 12/06/09) of the 29 non-fiction books on the list, only 9 were biographies or autobiographies/memoirs – the same number as books on dieting.

are predicated on a public desire to read about both public and private figures). In October 1994, *The Yale Review* reported:

> We enjoy a non-stop transitory first-name intimacy with a great deal of secondhand experience. We blur the difference between news, entertainment, scandal, and trivia…Issues and ideas don't shape daily discourse – celebrity, personality, and anecdote do. We've become a culture of biography (Casper 1).

But up to the early twentieth century, before television and radio, written biography was the medium by which people learned about public figures, and peered 'into the lives of strangers' (Casper 2).

Emerson said, 'There is properly no history; only biography' (10), positing the notion that interest in our past should be in and through the lives of the men and women who have peopled it - '…we must in ourselves see the necessary reason of every fact…' (ibid.) - and many novelists have played with that idea. Biography personalizes history and makes it more manageable, while simultaneously holding people up as examples, and enticing readers with exciting lives, much as a novel might do. It is therefore multi-functional, acting as truth teller, teacher and thriller. In its presentation of history, biography has been used to promote certain desirable values and virtues, both personal and national, and from the early eighteenth century, novelists exploited its accompanying cachet of authenticity by using lengthy titles to suggest they were telling true stories. This began in 1719 with Defoe's, *The Life and Strange Surprizing Adventures of Robinson Crusoe of York, Mariner: Who lived Eight and Twenty Years, all alone in an uninhabited Island on the Coast of America, near the Mouth of the Great River Oroonoque; Having been cast on Shore by Shipwreck, where-in all the Men perished but himself. With an Account how he was at last as strangely deliver'd by Pyrates. Written by Himself*. The full title of Samuel Richardson's 1753 novel, *The History of Sir Charles Grandison*, includes the

additional ‘information’ that it was sourced from original letters, and Richardson is their editor rather than the author of a fiction. It was further claimed that it was written after a request from some lady readers to write a ‘good man’ in response to Fielding’s 1749 novel, *The History of Tom Jones, A Foundling*.

The Bildungsroman type of novel often styles itself as history: Brontë’s 1847 novel, *Jane Eyre,* is subtitled *An Autobiography*; Dickens titled his 1850 novel, *The Personal History, Adventures, Experience and Observation of David Copperfield the Younger of Blunderstone Rookery (which he never meant to publish on any account)*, and it contains autobiographical elements. In Thackeray’s *The History of Henry Esmond Esq., A Colonel in the Service of Her Majesty Queen Anne* (1852), the eponymous hero relates his own history as a memoir using both first and third person. In 1891, Hardy extends the title of *Tess of the d’Urbevilles* to *A Pure Woman Faithfully Presented*, and in 1928, Virginia Woolf famously gives her novel, *Orlando,* the subheading, *A Biography*.

But though it is most emphatically not fiction, biography is not simply historiography, or even history, come to that, encompassing as it can so many different approaches to telling the story of a life within its time. The further away the subject lived from our present, the more blurred the lines between biography and history, so, although Disraeli said, ‘Read no history: nothing but biography, for that is life without theory’, I considered different theoretical positions in History as an academic discipline, and reflected on what they offer a biographer.

Biography as History

There are several positions from which History can be considered. The starting place for my biography combined Family and Oral History. In common with

many people, I grew up listening to anecdotes about family members, in particular, 'Uncle Bob'. Those fond, familial tales told by people who knew, admired and loved their subject, resonate and illuminate, but even then I recognised that the power of storytelling comes not from its veracity but from the way it is told. Recognising the narrator's tools, embellishment and exaggeration, repetition or omission, coupled with knowledge of the personality of the teller and the purpose of the tale, meant that before I reached my teens I knew that when these stories were served up, it was a theatrical experience, and I should suspend my disbelief, surrender to the fun of the moment. There's a reason why anecdotes remain oral.[318] Their objectivity is doubtful. They are designed to entertain as well as illustrate, and reality becomes distorted, discoloured, and diminished in the frequency of polished retellings.

The discovery of a telegram from George V and Queen Mary to my grandparents mourning the death of Robert Jones joined my family's oral history to 'Great Man History'. This tradition posits that important historical events are tied to the actions and decisions of powerful, charismatic men in positions of power, and postulates, for example, that World War 2 can be studied effectively by examining Churchill, Stalin, Hitler, Tojo et al. It is the direct descendant of Carlyle's view: 'The history of the world is but the biography of great men'. The Victorian Carlyle's idea that by studying heroes' lives we can learn something of our own nature follows on from the earliest biographical practices of Suetonius and Plutarch that sought to teach us about aspirational virtues like diligence and self-sacrifice. The stance is largely out of vogue today, when historians no longer favour a single explanation for an event, but look at factors like economics, culture, class, gender, race, and environment to explain change.

[318] The etymology of the word anecdote is from the Greek, meaning unpublished.

Through the twentieth century, attitudes have changed and become less simplistic. This move towards complexity mirrors the development of biography. If early biographies formed part of 'the chain of tradition which passes a happening on from generation to generation' (Benjamin 21) via the exploits of one great man, modern biographies reflect (wo)man's subtleties and complexities. Most modern biographers accept that their subjects are important and influential (or they wouldn't have chosen to write about them), but are first shaped by various factors. It is only later, when they are sentient thinkers in positions of influence, they do some shaping of their own.

Another branch of History, Cliometrics, uses counterfactual questions such as: What would have happened if the slave trade had not been abolished, or What if John Snow had not traced the 1854 cholera outbreak to that Soho water pump? More specifically to this work, What would have happened if Robert Jones had not introduced the Thomas splint onto the front lines during the Great War? It is useful when looking at general trends in history, and of value to a biographer in that it is predicated on asking questions.

Historiometry, another way of studying history through measurements, in its search to find ways to quantify the impact of individuals on technology, science and the arts, gives the biographer of a medical man a useful position. It validates the consideration of the impact of subjective personality traits like charisma and creativity.[319] The American doctor, Atul Gawande, suggests that both finding a meaningful way of measuring medical performance, and what you actually do with that measure, require ingenuity. He says:

[319] Its most infamous study was that of the IQ scores of US Presidents, in which George W. Bush came second to bottom.

> It used to be assumed that differences among hospitals or doctors in a particular specialty were generally insignificant…but what you tend to find…is a bell curve…with a handful of teams showing disturbingly poor outcomes for their patients, a handful obtaining remarkably good results, and a great undistinguished middle (205-6).

The relevance is that the question arcing right over this biography is why Robert Jones is called the father of orthopaedics, when there appear to be so many other possible candidates for the title? It was clear from the outset that I was going to have to suggest the title was either deserved or undeserved, and find a way to measure Jones' performance and achievements against others working in the same field.

Metahistorians reject the notion that history can be written about as it happens. This is an important consideration for me, since the existing account of Robert Jones' life was written by his son-in-law, and published just a year after his death. The obvious argument is that, like Johnson and Boswell, Watson's personal experience might be expected to confer authenticity. However, it also raises questions about bias that need addressing.

Another approach, Microhistory, works on a smaller scale. Biography would seem to fit in comfortably here, focusing as it does, on one person's history. However, I have not limited this study of Robert Jones to the small Welsh town where he was born, for the obvious reason that he didn't remain there. Nor have I focused the reader's attention on Jones' life as a doctor at a single pivotal moment in medical or even orthopaedic history. Although Microhistory gave me a useful research method, I held the view that in order to offer a full evaluation of his contribution to medicine, I needed an approach that allowed broader brushstrokes as well as fine detail.

I also made use of Military History in the chapter, 'Arms', although the chronology of the Great War's campaigns, battles and skirmishes are there simply to provide the context for examining this key moment in the development of orthopaedic medicine, and in particular Jones' contributions.

Probably the closest branch of history to biography is the relatively new discipline of Prosopography[320] – at least the etymology of its name suggests so. It comes from prosopoeia, a kind of personification representing an imaginary, absent, or dead person speaking or acting, from the Ancient Greek *prosopon*, meaning face, and *poiein*, meaning to create. However, although it overlaps biography, it doesn't quite contain it. Keats-Rohan, who provided the definition that starts this commentary, says prosopography enables the 'particular characteristics of [a] population as a whole [to] become visible', so it is good for background, but clearly not entirely satisfactory for a biographer in that one starts from an assumption that one's subject is marked out as being an exceptional part of the bigger picture. Keats-Rohan makes the distinction herself when she says that biography 'demands an engagement with the private life and the inner person' (141), whereas prosopography 'targets the common aspects of people's lives, not their individual histories' (ibid.). It is a way of looking at aggregated rather than separate stories, like city life or medical experiences in the nineteenth century, while biography stakes its own claim, like 'a red-blooded animal eager to mark out and defend its territory' (139).

Thus, although it can contain different ways of considering history, biography is much more than history. Each approach to History has been of some value to me in my reconstruction of Robert Jones' life. I am writing about a doctor having had no

[320] A 1971 article on www.prosopography.modhist.ox.ac.uk

medical training myself, and for a general audience, as well as those with medical expertise. I've worn similar clothes to the ones he wore to see how they might have affected the way he stood or worked in an operating theatre, understood that he was a student at a time when the principles of germ theory and antisepsis were still a matter for heated debate in the medical press, imagined what slum life must have been like both for its occupants and for the doctors called on to treat them, familiarised myself with a time when eugenics was not so unpalatable an idea as it is now, pain relief was limited and antibiotics didn't exist. We have to shift our mindset as readers, and it is the biographer's job to facilitate this. The result for me is that I have become an time traveller, visiting workhouses, boxing matches, canal cuts, casualty clearing stations, various forms of Victorian carriage transport, the tools of an orthopaedic surgeon, and hospital architecture. I've learned how to immobilise a fractured limb effectively, stood in a crowd of thousands listening to a charismatic speaker deliver a sermon, tried to make a disabled child comfortable in a third class railway carriage, made ends meet on £1 a week, and lived with disability, both literally as it turned out, and metaphorically. I've attended eight course dinners at nineteenth century gentlemen's clubs, eaten exotic fruit for breakfast, and sat with comrades in a tent halfway up a mountain dining under shellfire.

Biography starts from facts, but whereas in fiction, reception theorist Wolfgang Iser argues, there is a removal of the normal 'subject-object division that constitutes all perception' (203), it seems to me that in biography the acceptance that we are reading historical fact highlights/foregrounds rather than removes the division between reader and subject. The constant reminders of dates and geographical locations, keep subject and reader apart and separate entities.

Writing a biography is a bit like buying an Airfix kit of a Spitfire. You make a miniature likeness of the real thing. It resembles a Spitfire, but you know it isn't real. Mark Twain said that 'Biographies are but the clothes and buttons of a man – the biography of a man himself cannot be written'. Robert Jones didn't smoke a cigar or engage in debate or exercise his pedigree dogs or eat kippers or execute elaborate practical jokes in any way that I can make happen again, although he did do all those things, with relish. Recreating these things brings biography out of the pigeonhole of history and into the realm of creativity.

Constructing Lives and Limbs

Woolf notes that 'in time to come, Lytton Strachey's Queen Victoria will be Queen Victoria, just as Boswell's Johnson is now Dr. Johnson. The other versions will fade and disappear' (The Art of Biography 224). Shakespeare's version of Richard III was not questioned for centuries.

The existing biography of Robert Jones, written by his son-in-law, Frederick Watson, and published in 1934, just a year after Jones died, has become the accepted version of Robert Jones by virtue of lack of contradiction. It has formed the basis (often verbatim and unattributed) of a great number of subsequent commentaries about Jones.[321] Even though there is epistolary evidence of Watson's research, the book contains some flaws and inconsistencies, which may have come from the imperfect memory of conversations with the subject, and the speed with which it was written. Closeness to the subject may also account for the reverential tone he uses. It is wholly uncritical, like reading a life in a Ladybird book.

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[321] The *British Journal of Surgery* ran a series of articles on 'Great Teachers of Surgery in the Past' during the 1960s. The one on Jones, attributed only to N.W.R., is in places a verbatim lift from Watson.

The text also follows a linear chronology, and for a number of reasons I wanted to move away from this structure.

At the start of the writing process, I struggled with a way to shape my research that would interest me both as a writer and a reader. I can understand the satisfaction of chronology for a reader: to have a discrete beginning, middle and end. This provides a satisfaction derived from imposing a clear sense of order on the chaos of a life, and a helpful way of understanding the adult by first looking at the childhood experiences that contributed to the formation of the interior landscape. But life is rarely a neat straight line; one thing does not always lead directly to the next. More and more I saw myself as writing a life story rather than a life history. Linear narrative gives an illusion of control and order. But it is deceptive. A life may have been lived chronologically, in a succession of days, but our diaries and calendars are filled with a range of experiences; our days, hours, and minutes, with thoughts and ideas and conversations and glances and meetings, planned or random. We don't necessarily see a thread weaving its way through our days until we recall – the act of which makes the rest fall away. A biographer finds synapses between the present and the past, between the living reader and the deceased subject, between moments in his life.

Even though it fitted the focused, logical, clinical, professional man about whom I was writing, the thrust of his punch, the line of a ball he bowled down a pitch, I was unhappy with the masculine trajectory of conventional chronological structure for me as a female writer. In l'écriture feminine, which privileges non-linear writing, 'to write from the body is to re-create the world'.[322] Adapting phallogocentric language and structures can simultaneously alienate and exclude the reader, so the

[322] From 'Writing the Body Toward an Understanding of l'Écriture feminine' by Ann Rosalind Jones on www.webs.wofford.edu/hitchmoughsa/Writing.html accessed 07/07/09.

style of l'écriture feminine would be inappropriate here, I think, but it does provide a useful alternative way of thinking about how the material could be organized. Although biographical organisation is neither the meaning nor the application Kristeva, Cixous, or Irigiray intended, 'to write from the body is to re-create the world' is, for a broken-bodied biographer writing about a surgeon in the field of orthopaedics (the restoration of locomotor function), extraordinarily resonant.

So I thought about other ways in which the material could be presented. Out for a walk on a brisk November night, when it was so freezing my cheekbones ached and my toes and fingers were numb, it suddenly felt apt to be thinking about body parts. I'd come across a statement, 'Occasionally a single anecdote opens a character; a biography has its comparative anatomy, and a saying or a sentiment enables the skilful hand to construct the skeleton'.[323] My subject was an orthopaedic surgeon, a bone man. As I turned the idea over to look at it closely, I could see how parts of the life I had begun to discover would fit into body parts: a chapter on 'Bones' would include Jones' apprenticeship to his uncle, one in a line of Welsh bonesetters, and his pioneer work on x-rays; one on 'Blood' could look at his work on the Manchester Ship Canal (the artery of the north); 'Arms' connected weapons used in the Great War and the baronetcy he was awarded in recognition of his work with the wounded; 'Hands' could explore the paradox I was tussling with as to why a surgeon, whose hands are his livelihood, would box bare-knuckled. This structure has given me what Woolf summed up as 'the freedom of fiction…the substance of fact' (The New Biography 234).

I found precedents for non-linear structures. There are a number of biographies, particularly dating from early in the twentieth century, that proudly claim

[323] Robert Aris Willmott, English author, 1809-1863. www.thinkexist.com/quotes/with/keyword/biography/

themselves 'unconventional' in their titles, although some writers appear to use the word to suggest their subject's unconventional life, rather than there being anything at all unconventional about the structure of the biography. Wilfred Meynell's 1903 two volume *Benjamin Disraeli: An Unconventional Biography*, Percy Colson's 1932 *Melba – An Unconventional Biography*, and Victor Lauriston's 1934 *Inglorious Milton: An Unconventional Biography*, are examples of a break from traditional linear chronology. Meynell says in his introduction, 'The book…in its plan, is something of a novelty…something of an experiment' (xii).

However, deviation from a conventional linear chronology is not a new idea. Izaak Walton's 1639 biography of John Donne treads a straight path through his life, but then Walton begs readers not to see it an 'an impertinent digression' (38) to pause during Donne's final illness and make 'some observations of his life' (ibid.): his marriage ('the remarkable error of his life' (39)), his poetry, his friends, his preaching and his prayers. He details some of the beneficiaries and bequests in his will, and Donne's design of his own monument. Then come his last words and death. But Walton is still not quite done. He closes with a series of short paragraphs that give us a picture of the man's exterior and interior, and ends with a brief statement of his (Walton's) purpose in writing the biography: 'I shall see it [Donne's body, now but dust] reanimated' (60).

Further issues

An important set of considerations for the biographer is outlined in an essay 'Biography: Inventing the Truth', by Richard Holmes,[324] in which he suggests that biography has the 'power to reconstruct and to intrude [raising] certain problematic

[324] Richard Holmes (1945 -) has written about Coleridge, Dr. Johnson, Chatterton and Shelley, and has edited for the Flamingo Classic Biographies series, including Godwin on Woolstonecraft and Southey on Nelson.

questions' (17) from which he chooses four: ethics, authenticity, celebrity, and empathy.

Examining ethics, he poses the fundamental question about whether we (readers as well as writers) have the right to investigate a person's private life. Are we looking, or prying into '…this limbo between the rights of the living and the rites of the dead' (Patrizio 168)?

He wonders about whether public interest always applies as a convincing argument. Previous biographer-critics like Leon Edel and Robert Gittings do not raise considerations about whether a writer has any business peering into the life of her/his subject. Both these men begin from an assumption that their subjects (writers mostly) are of interest and that their work demands investigation. Edel suggested in 1959 that literary biography redeems itself from being merely 'a kind of indecent curiosity [because] it seeks always to illuminate the mysterious and magical process of creation' (3).[325] In 1978, Gittings denigrated the use of biography as propaganda, considering early biographies little more than official histories because of their giving such 'little idea of character' (20).[326]

Gittings admires Boswell's 'intimate biography' (31) of Johnson for its combination of 'scientific, scholarly research with the artist's use of words…Boswell's legal accuracy, real affection, drama, utter frankness, and, for all the fun, genuine seriousness' (33). He calls it a 'masterpiece' (33), whilst professing that the nineteenth century biography's 'art of concealment' (35) is anathema, citing Southey's excision of Emma Hamilton from his study of Nelson. Although he does not deal with the ethical issues head on, his attitude and language betray his

[325] Leon Edel: 1907-1997. Writer of the 5 volume biography of Henry James, Edel was of the view that what lifts biography from 'shapeless happenings and gossip' is the discovery of 'the overlap between what the individual did and the life that made that possible'.
[326] Robert Gittings: 1911-1992. Biographer of Keats, Hardy and Dorothy Wordsworth.

position on the desirability of investigating a subject's private life, by never questioning whether any of us has the right to do so. Gittings offers a justification of sorts inherent in his assumption that psychoanalysis conflates the writer with his subject, saying that 'the most valuable function of this weapon of awareness in the biographer's armoury is that he examines more carefully the motives not of his characters, but of his own self while writing' (42).

Several ideas here are worth unpicking. First is his use of the word 'characters' to describe the subjects of biographies. He does not appear to be using it in the interchangeable sense of character and personality, but rather in the way we might apply the term to the imaginary people inhabiting a novel, raising some serious questions about where the boundaries are between truth and creativity. Second is his use of war imagery in 'weapon' and 'armoury'. It is not entirely clear whether he considers a biographer to be at war with himself or his subject, or if he thinks the biographer's ethical demons need subjugating or even purging. Perhaps he is simply taking up a writer's defensive position against his critics.

For me the issue was raised very early in the process by a retired orthopod advising me not to reveal any skeletons I might find lurking in cupboards. My reply to him was that if I found any, then I had a duty not to hide them, and their exposure would be unlikely to affect Jones' legacy to medicine, orthopaedics in particular. Perhaps the ethical issue is a more pressing question when the subject and/or her/his immediate family members are still living, although it is a different ethical question when the dead cannot defend themselves.[327] There are certainly questions worth asking about a writer's responsibility if hurt is caused to people. But it seems to me that the earlier biography of Robert Jones is marred by the close relationship

[327] Strachey believed it was the death of the subject that allowed the biographer to tell the truth about her/him.

of the writer to his subject. Being married to Jones' daughter must raise issues about Watson's bias, his self-censorship, and his obvious affection and respect clouding his objectivity as a social scientist, particularly as he was writing so soon after the death.

Perhaps time allows it to be justifiable, if not entirely decent, to peer and prod and pry. And I note that the pejorative associations of these words betray my own discomfort with investigating a life my subject kept hidden from view, even though I do not think it was because he had secrets to hide, but because he considered everything to be of secondary importance to his work. He was a driven man, imbued early on with a work ethic, passionate about the importance of orthopaedic training and expertise for those entrusted with patient care. Some might interpret this drive as selfishness, might accuse him of neglecting his wife and children, but I would suggest that this is too simple a reading of a man committed to public service, a man of his time. To suggest neglect or selfishness as motives could reflect modern attitudes to life roles being imposed on a man who lived between 1857 and 1933. It illustrates the fact that biography is as much about interpretation as it is about recording history, reporting verifiable facts.

This issue of a biographer's duty to search for and tell the truth – whatever that is – connects Holmes' questions concerning ethics and authenticity. It almost paralysed me at the start of the writing process, perhaps because my primary source was family anecdote.

Holmes asks how reliable sources are as the foundation for reconstructing one's subject. The American biographer, Leon Edel, writing about literary biography in 1959 warns, 'Things impalpable surround palpable objects' (13), reminding us to be aware of tone, mood, and context when considering source materials, and twenty

years later, Robert Gittings, suggests that 'innocent faking…afflicts all forms of public documentation' (69). Certainly it is important to bear subjectivity and author's motives in mind when reading source material, particularly obituaries. Not speaking ill of the dead is a powerful taboo, especially if the deceased is your colleague and teacher, let alone your father-in-law. Looked at in this way, Watson's biography of Robert Jones is an extended obituary. It was published just a year after his death, and the surviving correspondence from Watson to Jones' friends and colleagues requesting contributions or answers to his questions about Jones' work, is not asking for or encouraging criticism nor even objective analysis of Jones' contribution to medicine, probably impossible without the passage of time. Watson does not give his sources. There is no bibliography, although a very short Foreword states his 'desire to thank all those…who have given…criticism and information'. He singles out just eight people, including his 'wife and…daughter Lorna' (the latter acted as his typist and manuscript secretary).

I am ambivalent about the Watson biography. It has been a living link to my subject, and despite its errors has frequently served as a primary source. However, it raises certain specific matters concerning fact and opinion. Some facts, as in all biographies, are unequivocal. It is easy enough to verify dates of birth, marriage and death for example, although even here there is a problem. Watson's account of the death of Jones' father is confused about the dates and duration of his final illness. But our reading of the interpretation of events Watson offers is dependant on an understanding not just of Jones within his class and culture, but also of Watson's attitude and tone. His own comments about navvies might have been, at the time of publication, seen as benevolent and generous. By members of his own class.

However, now they just seem twee and patronising, and it is important not to conflate, as he does, his opinion of the navvies with that of Jones.

Authenticity is not merely a question of sources. It goes to the question about how authentic any reconstruction of a life can be. Many biographers use the analogy of research as detection, hunting out and piecing together clues. Edel employs this idea, but sees it as somewhat limited, contending that, 'The biographer must not be content to be merely Sherlock Holmes, the sleuth. He must possess Holmes' capacity for synthesis and ratiocination' (47), seeing one of the biographer's challenges as creating a completeness from parts that are never equal to the whole. Gittings likes the image too, with the caveat that the biographer's motivation is not to prove his subject a criminal, guilty of something worth uncovering. Instead he states, 'It is assumed that all life has something worth recording, and recording truly for all time. The search for this truth assumes that the truth about men and women is totally desirable' (92-3). Kate Summerscale takes the idea up again in her 2009 award-winning biography, *The Suspicions of Mr Whicher.* She writes of the detective's job, but she describes her own role as biographer too when she says the work is like reconstructing 'history from tiny indicators, clues, fossils. These traces were both pathways and remnants: trails back to the tangible event in the past...and tiny scraps of that event, souvenirs. Like the natural historians and archeologists of the mid nineteenth century, Whicher tried to find a story to bind the fragments he had found' (141-2). The challenge – and the danger – for a biographer is to find a credible, interesting, and true story, one whose veracity could be challenged in a court of law. It seems to me that a biographer takes an oath to search the multiple truths about her/his subject. We bear witness, and we have a duty to show where we are expressing an opinion, offering an interpretation. Woolf said, 'the novelist is

free; the biographer is tied [to facts]' ('The Art of Biography' 221), but those facts are subject to changes in opinion and interpretation, and it is this shifting that gives the biographer freedom. Facts are 'fertile' according to Woolf, an idea taken up by Hermione Lee when she talks about 'reading people right' (63). Lee makes observations about how a biographer shows opinion and interpretation, citing strategic uses of speculative rhetoric like 'perhaps', what she calls linguistic 'hooks of plausibility' (89).

Leon Edel divides biographies into three types: chronicle, pictorial, and narrative. The first foregrounds its source documents. It is chronological and historical. The second is highly selective, focusing on personality and the subject's life behind her/his surface. In the third, the biographer 'has so saturated himself with his documents that he may cut himself free from their bondage without cutting himself free from their truth' (131). 'The biographer constantly characterizes and comments and analyses, instead of merely displaying chronologically the contents of a card index or a filing cabinet' (133). This presents an acceptable, even desirable way of writing a life, to be so familiar with the subject as to be able to let go of the security blanket of rigid adherence to sources which could themselves be highly subjective and selective, and recreate a likeness which is more like an informal family photograph than a formally commissioned portrait. Edel suggests that all a biographer can hope to achieve is to 'hang before [the] reader a *reasonable* [my italics] likeness' (150).

There is an important question of trust here: trusting one's sources up to a point, but also trusting both one's own judgement to interpret reasonably, sensibly and sensitively, and the discrimination and intelligence of one's readers. Woolf suggests that 'authenticity lies in the truth of his [the author's] own vision' (225). She

adds to her argument by considering the effects of time on how we might interpret the historical facts we find in our research, which 'are not like the facts of science – once they are discovered, always the same. They are subject to changes of opinion; opinions change as the times change' (226). She recommends that:

> …the biographer must go ahead of the rest of us, like the miner's canary, testing the atmosphere, detecting falsity, unreality, and the presence of obsolete conventions. His sense of truth must be alive and on tiptoe…he must be prepared to admit contradictory versions of the same face (ibid.).

Of course there are contradictory versions of us all, and a biography is not a coffin in which a body is laid out dressed in Sunday best, all 'bad' behaviour forgotten for a decent period. Anomalies are what make humans interesting. One version of a person does not have to exclude all other possibilities. If it is a mark of intelligence to be able to hold conflicting ideas simultaneously,[328] then it is the mark of an interesting character to contain apparent inconsistencies, and the mark of a good biographer to accept them and offer them all up for the reader's consideration.

In her exploration of Woolf's views about biography, 'The Impossible Art', Elena Gualteri suggests, 'On the one side there is the solidity of incontestible evidence, of a positive truth that does not admit uncertainty or invention. On the other lies the evanescence of human character, of a whole that cannot be reduced to the sum of its parts, but can only be captured by an imaginative leap' (349). These sides do not have to be mutually exclusive. The image of a two-sided coin is a tired but valid one. The facts and the uncertainties are simultaneously part of the biographer's field of vision. Our subjects do not dazzle us. It is we who hold them up to the light so we, and our readers, can see them more distinctly.

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[328] An idea proposed by F. Scott Fitzgerald in his 1936 story 'The Crack-Up'.

Holmes' third major issue is celebrity, and there are clear problems with biographies that are motivated by hero worship. There is little value in a depiction that is hagiographic. That is mere sycophancy. It raises an important question for me, because the subject of *Lives and Limbs* is my great grandfather, and I am aware that I am open to accusations of, or the somewhat gentler suggestions that, being a family member, however far removed in time from my subject, I am bound to be biased. After all, I grew up listening to my grandmother's stories about 'Uncle Bob', a man she clearly adored.

In fact, my opinion of Robert Jones is a matter of interpretation by a reader. My only duty is to ensure that it is clear the research is thorough and rigorous. A more important issue for me is the suitability of a 'good' man as a subject for a biography. Is it possible to present an interesting life if there is only light and little or no shade? Thomas Carlyle may have said, 'No sadder proof can be given by a man of his own littleness than disbelief in great men' (Heroes and Hero-Worship i), but what exactly does 'great' mean?

According to Holmes, modern biographers have a 'suppressed desire to devalue greatness, to find the feet of clay and the rattling skeleton in the closet' (18), but he also states that in its favour, biography 'can alter our fundamental assumptions about what lives have been significant and why' (19).

Virginia Woolf asks:

> Is not anyone who has lived a life, and left a record of that life, worthy of biography – the failures as well as the successes, the humble as well as the illustrious? And what is greatness? And what smallness? He [the biographer] must revise our standards of merit and set up new heroes for our admiration (226-7).

Well, yes to all of that, up to a point. The fact of having lived cannot always be enough to justify a biography. Not all lives, illustrious or humble, have enough of

interest to sustain a biography, and one of the things that attracted me to the telling of Robert Jones' story was that instead of him being a hitherto invisible, undiscovered satellite in orbit round famous people, they would become the satellites in his story, although for a centre of gravity he was a rather jocular man. He treated Buffalo Bill and one of Florence Nightingale's nurses. Two of his closest friends were Joseph Conrad and John Galsworthy. George V and Queen Mary greatly admired and actively supported his work with the wounded during the Great War. He claimed that his proudest achievement was that he once bowled W.G. Grace out for a duck. The question that drove me through his biography is this: Why is Robert Jones known as 'the father of orthopaedics', when so many other 'great' doctors could have been awarded this epithet? Seeking an answer to that question, and assessing Jones' contribution to medicine, has consistently seemed important and interesting. In addition, Jones' life begs to be told. A surgeon who boxed bare knuckled. A Victorian/Edwardian gentleman obsessed with cowboys and cricket. A medical man whose best friend was a foreign author, and who wrote an essay entitled 'The Romance of Surgery'. A man whose two most powerful influences were his father, a mild mannered bohemian, and his uncle, a short-tempered autocrat. A doctor whose life roughly spanned the introduction of anaesthetics and antisepsis at one end and the discovery of antibiotics and vitamins at the other, who worked in the Liverpool slums, specialising in an area on the outside of conventional medicine. But before his story can be found, before the necessary 'revision' Woolf suggests, there are two mythologies to strip away – the medical construct and the family legends that have grown up like ivy, obscuring, choking the graveyard monument.

Mythology

According to the American mythologist and writer, Joseph Campbell, we have moved from Walter Benjamin's Middle Ages where chroniclers did not feel the need to explain or justify because man was a small patch of colour in a divine picture, to where 'man himself is now the crucial mystery' (391). This is emphasised further when the man is a doctor, 'the modern master of the mythological realm, the knower of all the secret ways and words of potency. His role is precisely that of the Wise Old Man of the myths and fairy tales whose words assist the hero through the trials and terrors of the weird adventure' (9). He argues that mythology supplies 'the symbols that carry the human spirit forward' (11), and 'there is a cry…within every heart…for the redeeming hero' (16). Myths and their heroes survive whereas we mere mortals do not.

> The hero…is the man or woman who has been able to battle past his personal and local historical limitations…[He] has died as a modern man; but as eternal man – perfected, unspecific, universal man – he has been reborn. His second solemn task and deed therefore…is to return then to us, transfigured, and teach the lesson he has learned of life renewed (20).

In Campbell's argument, myths give us humans hope, like the last thing in Pandora's box. Passing the limitations of his own lifespan simultaneously allows the mythologised hero to embody aspirational characteristics, and become somehow Everyman: '…the hero is rather a symbol to be contemplated than an example to be literally followed' (319). He is someone who allows us to contemplate the basic nature of humankind.

A myth has first to be constructed, then disseminated, and finally preserved. The devotional language ('greatest', 'altar', 'disciple', 'Mecca') used by his colleagues to describe Robert Jones is one place to look for how the Jones 'myth'

has been constructed. Carefully researched biography should demythologise, particularly relevant to the myhtologising of medical men. Anecdotal repetition drives the subject into a particular place in our consciousness, so he acts like pain relief. Doctors are, after all, meant to be good people, and we put ourselves totally at their mercy, under anaesthesia while they slice and excise and saw and stitch. Reading about 'bad' doctors like Crippen and Mengele destabilises our faith. Conversely, feeding the mythology with stories about 'good' doctors reinforces our trust.

All of this dovetails into the final point Richard Holmes' raises: that of empathy, in which he questions why a biographer is drawn to a particular subject, what element of autobiography is involved, and how this affects objectivity and truth. He insists that these questions do not devalue biography, but they do complicate it. 'The fluid, imaginative powers of re-creation pull against the hard body of discoverable fact. The inventive, shaping instinct of the story-teller struggles with the ideal of a permanent, historical, and objective document' (20). Holmes proposes that biography 'insists that the proper study of mankind is man' (25), which begs the question, is biography a window, allowing objectivity, or a mirror, implying subjectivity? Or could it perform both functions simultaneously? I think this is the paradox at the heart of biography, the reason why non-practitioner critics feel uneasy about its interest and value as a genre. Is it literature or is it history? Both. Is it factual or is it fashioned? Both. Hermione Lee writes of biography as facts supplemented by 'sympathetic guesswork' (33), a 'tussle between "making up" and "fact", or "making over" and "likeness"' (39); reminding us that neither reader nor writer possesses the subject.

A biographer does not present. S/he represents a subject. Or in this case, she re-members him, not from direct experience, but unlike the case of the unfortunate Humpty Dumpty, a biographer must believe in the possibility of putting a person back together again.

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